

MANUFACTURERS' RECORD

A WEEKLY SOUTHERN INDUSTRIAL, RAILROAD AND FINANCIAL NEWSPAPER

Trade-Name Registered in the U. S. Patent Office.



VOL. LIII. No. 24. |
WEEKLY.

BALTIMORE, JUNE 25, 1908.

\$4.00 A YEAR.
SINGLE COPIES, 15 CENTS.

Manufacturers' Record.

PUBLISHED EVERY THURSDAY BY THE
MANUFACTURERS' RECORD PUBLISHING CO.
BALTIMORE.

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General Staff Correspondent.

Branch Offices:
New Orleans—1012 Maison Blanche.
New York—52 Broadway.
Boston—170 Summer Street.
Chicago—1114 Fisher Building.
St. Louis—1023 Century Building.

Subscription, - - - - - \$4 a year
(payable in advance) to United States,
Mexico, Cuba, Porto Rico, Hawaii and the
Philippines.

To Foreign Countries (including Canada) in
the Postal Union, \$6.50 a year.

[Entered at the Baltimore Postoffice as sec-
ond-class matter.]

BALTIMORE, JUNE 25, 1908.

GROVER CLEVELAND.

He served his country faithfully in
every position to which he was called
by the people. The people will not forget
the example of his practical
patriotism.

MILL-WORKERS' WELFARE.

Mr. Thomas F. Parker, president of
the Monaghan Mills, Greenville, S. C.,
is neglecting no opportunity to develop
the policy of advancing the welfare of
mill populations, in which work he has
been a notable leader. In a recent ad-
dress before the Federation of Women's
Clubs of South Carolina he asserted
that as South Carolina is eminent today
in cotton manufacturing, so in the future
it will be eminent in solving the
problems and in utilizing the opportunity
for good created by its industrial
activities. He said that of the more
than \$100,000,000 invested in South Car-
olina cotton mills more than \$75,000,000
is owned by South Carolinians, that the
mills are managed almost exclusively
by natives of South Carolina and op-
erated almost exclusively by persons
with generations of Carolina blood in
their veins. To the growth of the textile
industry he attributed the doubling
within the past fifteen years of the
price of mill labor and farm labor,
the more than doubling of the price
of cotton, the conversion of 125,000
persons from producers of perishable
farm products into consumers of them,
and the growth of financial prosperity
wherever the mills are situated. He
added, though, that the real advance of

civilization consists not in increase of
wealth and in improvement of material
conditions, but in the raising of ethical,
mental, social and physical standards,
and, in that connection, that the wel-
fare of the populations of mill villages
concerns not only the manufacturers
and the operatives, but all the citizens
of the State, and therefore, should apply
to all citizens of the State. He rec-
ognized that the benefits to the oper-
atives, due to progressive and enlight-
ened expenditures in their behalf by
the mill corporations, are to be regarded
as incidental to the financial operations
of the corporations, that business wel-
fare work is that which is financially
profitable to the corporations. But
while the attitude of stockholders and
of managements is that only business
welfare work can be paid for with the
corporation's money, there is, as he sug-
gested, opportunity for welfare work
among the operatives devoid of financial
end. And in that work he finds an op-
portunity for stockholders in their in-
dividual capacity. Mr. Parker outlined
the directions which this work by in-
dividuals might take. The ends of all
of them are most desirable, but we be-
lieve that resort to legislation advo-
cated by Mr. Parker as means to the
ends should be most carefully hedged
about by limitations lest such legisla-
tion defeat its very purpose or bring
about conditions worse than those that
it would cure.

EFFECT OF ANTI-CORPORATION LAWS.

The policy of attacking corporations
has already had a startling effect in
Texas, as is shown by the following
paragraph in a dispatch from Austin,
the State capital:

There is not a scraper moving on railroad
construction in Texas at this time and that
important work is at a complete standstill.
The Orient and one or two other projects
have planned their routes, but none others
are in the field with proposed extensions or
new lines.

This brief extract from a press report
pictures the realization in part of a con-
dition described as probable by President
L. F. Loree of the Delaware &
Hudson Railroad Co. in his recent ad-
dress at the annual dinner of the alumni
association of Rutgers College, New
Brunswick, N. J., when he said:

For a number of years the railroads have
been subjected to a great concerted attack.
The skill of the employees, the character of
the officers and the honesty of the capitalization
have alike been impugned. Back of all
stands the sinister threat to segregate from
all other forms of investment the investment
in railroad securities, to assert over such
investment a high-handed control, assuming
no responsibilities for losses, but limiting
any possible gains to a savings bank rate
of interest. Should this effort be successful,
it is certain to degrade the employees, to
drive out the capable officers and to lead to
the refusal of investors to make new contributions
to capital. If such an effort were
brought about, the consequences to the com-
munity would be more far-reaching than
one likes to contemplate.

Mr. Loree's words above quoted came
at the conclusion of an able speech
sketching the progress and magnitude

of the railroad business in the United
States and its intimate relation to all
forms of business advancement in the
country. Among other things, he re-
marked upon the rapid growth of popu-
lation and the vast increase in the num-
ber and extent of the needs of the people
and how important it was that trans-
portation facilities should be maintained
to keep pace with other material growth.
He also noted the comparatively meagre
returns which investors received from
their railroad securities and the need
for making railroad investments more
attractive to capital in order that lines
may be developed and extended.

As the report from Texas shows,
there prevails in some quarters an al-
most senseless spirit of hostility to
capital. One of the results of severe
legislation aimed at corporations in
Texas is said to have been the with-
drawal of 21 large insurance companies
from doing business in that State. The
action of these companies in getting out
of Texas has, it is alleged, alarmed people
in other lines of business, especially
railroading, who anticipate that they
will again be forced to undergo a period
of fear and anxiety by the Legislature.
If something is not done to relieve them
of apprehension Texas will find herself
lacking in railroad facilities for her
growing population.

Texas usually builds several hundred
miles of track each year, but a report
just issued by her railroad commission
shows that less than 300 miles have
been constructed since June 30 last.
During the calendar year of 1907 there
were built in that State 460 miles of line,
which indicates that since January
1 construction there has been prac-
tically nil. In 1906 there were more
than 800 miles of new line built in
Texas, and even now there are many
new projects that would be rapidly ful-
filled there if only peace were assured
to railroad corporations.

But there are other States than Texas
which would also do well to maintain a
more friendly feeling attitude toward
the men who provide the money.

LET'S GET TO BUSINESS.

The country is safe, and with this as-
sured all fear and doubt should be dis-
pelled, and every business man should
immediately prepare for increased busi-
ness activity. There is no reason to
look with fear or timidity to the future.
The wave of radical agitation against
business is dying out, and men every-
where are coming to recognize the fatal
blunder which has been made. Under
these conditions, the farseeing man
should go to work.

He who proposes to build, whether it
be a barn, a dwelling, a factory or a
skyscraper, should see that now is his
opportunity. Materials are cheaper
than for several years, labor is more
abundant, contractors everywhere are
looking for work, and a great saving
can be effected by doing work now
which must be done in the near future.

Every municipality which is figuring
on local improvements—street paving,

the construction of water-works or sewer-
age systems, or public buildings—
should move quickly in order to get the
benefit of the lower prices at which
such work can now be done. Higher
prices are inevitable just as soon as busi-
ness begins to revive. With a return,
even of a fair degree of activity, and this
is already in sight, building mate-
rials must advance, labor will command
higher wages, railroads will be so
blocked with freight that delays and
congestion of traffic will be inevitable.

Now, when lack of freight enables the
railroads to make prompt deliveries,
when contractors and laborers are hunt-
ing for work, when lumber and bricks and
cement and iron and steel are cheaper
than they have been for years, and much
cheaper than they are likely to be in
the near future, every man who fails to
utilize the present opportunity to carry
out improvement operations which he
has in mind will make a great mistake.
Many men are so constituted that in
times of dullness they are afraid to pre-
pare for times of activity. They wait
until the boom is on, and then they
undertake to re-equip their mill with
new machinery, to build a new plant or
construct a house, and the result is long
delay, high cost of construction and the
disadvantages of failing to secure the
benefit of the rising market for their
output. The wise man, who sees that
radicalism in State governments as
well as in national affairs, is not to be
the rule of the future, will make the
most of the present opportunity. Get
to work. Georgia set the pace for the
business men of the country in showing
how even the strongest political rad-
icalism could be overwhelmed in defeat.
Other States are sure to follow. Busi-
ness interests are safe. Let us get
busy.

WHAT THE RAILROAD DOES.

Doerun is a new town in the north-
west corner of Colquitt county, Georgia,
on the Great Northern Railway. It has
1000 inhabitants. It has a Business
Men's League, with Mr. E. W. Brown,
secretary. If the intelligence and zeal
and energy manifested in a little pamph-
let issued by the league is sustained,
Doerun should double its population in
a very short while and get a pace plac-
ing it among the progressive towns of
Georgia. An element, perhaps the
greatest element, in its growth is sug-
gested in the following from the pamph-
let:

Six years ago this community was a wil-
derness; the very best section of the cotton
belt—the center of Wiregrass Georgia—could
boast nothing but yellow-pine forests and
cattle ranges. The vast acreage of public
lands lying in the upper portions of Colquitt
and Mitchell counties and the lower portion
of Worth county had escaped the notice of
capitalist and home-seekers. The building of
the Georgia Northern Railroad from Moul-
trie to Albany attracted attention from out-
siders, who began to immigrate here to farm
or to engage in one pursuit or another of the
various commercial pursuits; and though it
has been but a short space of six years, the
flow of immigrants has been increasing, and
each year the casual observer has noticed a
tremendous growth in intelligence of the

farming classes—Intelligence in labor, in business and in citizenship. Each year has brought increased vitality and activity in the building of homes and farms and in the construction of that citizenship upon which all communities base their happiness and advancement in the moral and business worlds.

It was the railroad that did it. This local record of local changes recognizes the practical benefits of railroad building in changing to the better the material conditions of a section. It is obvious from the record that without the coming of the railroad into that portion of Georgia a vast acreage of fertile land would still be idle, the population scant and products of a primary order sent to other parts to yield their largest return in the handling. The record should appeal strongly to the intelligence of the farming classes, whose growth it notes, and that intelligence should find expression in the choice of lawmakers with sense enough to enact nothing that will cripple the railroad in its operations or check the inclination of capital to build other railroads.

THE PUBLIC AND THE RAILROAD DEATH LIST.

Mr. Julius Kruttschnitt, director of maintenance and operation of the Union Pacific System and the Southern Pacific Co., has contributed an article on "The Public's Responsibility for Railway Accidents" to *Appleton's Magazine* for July, in which he reaches the conclusion that the deterioration of the efficiency of railroad employees reflects a state of public opinion which in many quarters of late has inclined to wholesale condemnation of corporations.

The author urges that railroad employees will be brought to realize their responsibility by the force of a better public opinion, which must discriminate between the bad and the good in passing judgment on corporations and their officers. Continuing, he writes:

The unnatural and hostile conditions that have resulted from the attitude of the press and the public toward corporations must be replaced by peace and co-operation, and, while not abating its condemnation of abuses or relaxing its determination to correct them, it (the public) must, in the exercise of its determination, give the support of its all-powerful opinion to the earnest efforts of railroads to improve discipline, increase safety and generally raise the standard of service.

Considering the result of tests held on the Union Pacific System in order to learn the degree of efficiency of employees, Mr. Kruttschnitt says that records for December last showed 98.9 per cent. of efficiency, yet on referring to earlier records within a few months after beginning the system of tests the percentage frequently rose to over 99, yet constant vigilance has not raised the standard. Of this he says:

A railroad is much more dependent upon its human than upon its material equipment for safe and efficient operation. No matter how generously every material equipment is provided, how lavishly capital is expended for improvement of roadbed, additional side tracks, terminals, safety devices and the like, the outlay is useless unless the road is efficiently manned. It is therefore altogether regrettable that the attitude of our employees has been changed. That it has been changed from loyalty and consideration to indifference, if not to disloyalty, no observer will deny. And the influence which has brought about this change is unquestionably the present state of public opinion, which condemns all corporations indiscriminately.

Undoubtedly the author is correct in his conclusion that railroad employees are affected in the performance of their duties to a greater or less extent by public opinion, but railroads are not the only organizations which suffer from a lack of conscientious fidelity of employees in the performance of duty.

The MANUFACTURERS' RECORD has several times commented upon the lack of vital interest which so many employees in various lines of work appear to feel in what they are employed to do. The average employee seems to get through with his work with no higher aim than his pay at the end of the week. Small, indeed, is the percentage of men showing pride in work, or any concern for it beyond a degree of accomplishment which will pass muster and will insure the receipt of weekly wage or salary. To be sure, the figures cited by the writer of the article display what would be considered by most employers in other businesses a high rate of efficiency, but when it is remembered that so much human life and property depends upon the absolute fidelity of railroad operatives to their trusts it will be realized that nothing short of perfection can be wholly satisfactory to an operating official.

The statistics of fatal accidents on railroads, to which Mr. Kruttschnitt directs particular attention, show that many more than half the number of persons killed on railroads were trespassers, and he remarks upon the need of legislation to prevent people from entering unauthorized upon railroad property. There is no doubt that this is also an evil which needs to be removed. In England, for instance, railroads are not open to anyone who chooses to follow them as short cuts between different points, but their use in such manner is forbidden by law under penalties. Moreover, he wishes to see legislation which will compel employees to use safety devices that are provided by the railroad companies in order that the number of accidents to their men may be diminished. The record of accidents in the operation of railroads shows that during the last year for which statistics are available there were 9051 persons killed and 45,455 injured in various ways for which the companies were not to blame. The killed included 5381 trespassers, 2586 employees and 212 passengers. Among the injured the employees numbered 31,983, trespassers 5927, passengers 4398. These figures cover accidents due to falling from cars, jumping on and off cars, struck by cars and other causes, for which the railroads were not responsible, but which were due to the carelessness or recklessness of the victims.

If reforms could be accomplished along the lines described by Mr. Kruttschnitt there would be a large decline in the number of railroad accidents. It is probable, however, that efforts to restrict the use of railroad property absolutely to railroad companies and their employees would arouse numerous and loud protests in various quarters where people have been accustomed to use the tracks or adjacent roadbed as pathways. Perhaps the employees would also strenuously object to being compelled to use safety devices if they interfered with convenience or speed in operation. But the most difficult thing to overcome or to win over may be public sentiment, although there is basis for hope that sane thought will soon govern in public dealings with corporations.

SOCIOLOGICAL PESSIMISM.

Of course, *Charities and the Commons*, the New York organ of "scientific philanthropy," takes a pessimistic view of the fact that the Maryland State Board of Charities and Corrections turned down for the office of secretary for the board an "expert" formerly connected with the New York State Board

of Charities and recently general secretary of the Federated Charities of Baltimore, but with present employment not mentioned, who had "also consented to be a candidate for the position," and elected a well-known politician to the position. The pessimism is justified. From the standpoint of "scientific philanthropy" salaried positions in philanthropic work must be filled exclusively by individuals whom "experts" declare are "experts." Judged by recent developments in New York city, the ideal "expert" would be one who could undertake to allay alarm about the starvation of women and children in a community by giving out an essay on the ideal working day for "professional philanthropists or consecrated volunteers" providing four hours of leisure, in addition to five hours for meals and necessary railway journeys, such as *Charities and the Commons* gave out a couple of weeks ago, or by characterizing the fainting of a mother from starvation as "sheer luck, a piece of stage mechanism by the hand of fate."

Coming back to politicians, we recall the appointment fifteen or twenty years ago to the executive office of a State institution of a "practical politician." He was a typical ward leader in one of the most notorious wards of his city. He probably had never heard of "uplift work," and might not have been able to spell sociology. We have an impression that he has seldom stood in the limelight of conferences and conventions on charities and corrections, but we have a very decided conviction that the practical work for good that he has done at the institution, and done because, being a practical politician, he was acquainted with human nature, will compare quite favorably with the practical work for good that all the salaried "experts" in "scientific philanthropy" in his city, supported by the generosity of really philanthropic men and women, have accomplished in the same period.

Might it not be well for the well-known politician to be given a chance to demonstrate his ability as executive officer of the Maryland State Board of Charities and Corrections before criticism of him is advanced? Or, are the "experts" who back other "experts" for salaried positions in a mutually inciting spirit afraid that some practical individual will demonstrate by results the emptiness in the patter of much of the "expertness."

ONLY ONE WAY TO CHECK RADICALISM.

A conference of the agricultural and commercial interests of Texas has been called to meet at Galveston on June 29 for the purpose of discussing legislation affecting the development of the State and to outline plans for encouraging the prosperity and promoting the general welfare of Texas. This convention is called none too soon. The people of that imperial State have suffered too long from politicians of high and low degree—more especially low degree. Rich as Texas is in resources, vast as is its extent, its progress ought to have been at least twice as great during the last 10 years as it has been. It is entirely safe to say that the value of Texas property in the aggregate would today be at least twice as great as it is but for the unwise legislation against the investment of outside capital and against corporations during the last 12 or 15 years. The legislative committee of the Texas Commercial Secretaries' Association, in sending out a notice for this meeting headed "Fewer Laws, Better

Laws, More Farms, Factories and Railroads for Texas," says:

The wave of radicalism is fast receding throughout the country, and, with the example of Georgia to inspire the work, Texas should become a beacon light to commerce and carry the banner of progress upward and onward until the factory seeks the raw material and the railroad develops the tonnage of the plains, and Texas becomes the granary and market-house of the world.

The Commercial Clubs of Oklahoma in their convention at Oklahoma City on June 10 expressed the desire of that State for foreign capital, and pledged their undivided support to the protection of every legitimate investment. Most of the resolutions passed by the Oklahoma convention were very good, but there were some points of weakness which minimized the value of the work of the convention. Among other things, these resolutions said:

We confidently invite capital into our State, knowing our laws to be less radical, when sanely enforced, than they are often represented to be, and believing our people ready to compel modification of such laws as may be found to be unjust, unfair or needlessly burdensome.

It is useless to invite capital on the promise of the repeal of unfair laws. The first position should be to secure fair laws, and then say to the capital of the world, "We have proved our good intentions by our good work." Possibly the weakest point in the Oklahoma resolution was this:

We ask at the hands of the Corporation Commissioners and the Attorney-General the utmost leniency consistent with justice to all classes in their dealings with public-service corporations, and ask that no requirements be made against them which will preclude the earning of a fair return upon legitimate capital or prevent their expansion to meet the needs of the community they serve.

The weakness of this is "We ask," "we ask," instead of saying to the public servants to whom this is addressed, "In the name of justice we demand," and then, if the demand is not complied with, the people of Oklahoma, like the people of Georgia, should bury in a political grave, too deep ever to be reached by Gabriel's trump, those who have lived and fattened on appealing to public prejudice against legitimate business development. Of what avails the statement of the Oklahoma convention, which says, "We express confidence in the high character of our people, calling attention to our small per cent. of illiteracy and our enormous permanent school fund," unless there can be given at the same time the assurance that the local investor, as well as the outside investor, is going to be given the opportunity to join in the development of the vast resources of that region to his own profit, to the benefit of the whole State, without the drastic legislation that has hampered and retarded the development of the Southern States? Resolutions promising sanity and conservatism will count for nothing until they are made effective by an overwhelming defeat of the men guilty of misleading the public and of retarding individual and State prosperity by their radical agitation.

The Texas Commercial Secretaries' Association may well study the situation as presented in the resolutions at Oklahoma. It might frankly say to the public:

We recognize that our State has been cursed by a set of politicians who have cost it hundreds of millions of dollars; we realize, as honest, honorable business men, that we are suffering from the sins of commission on the part of the politician and of omission on our part by reason of our failure to drive these politicians out of office, if not out of the State. Recognizing these conditions, we pledge ourselves to redeem Texas from radicalism and restore it to its

rightful position as a leader in development through sane and safe and sound conservatism, and when we have accomplished this task, and not until then, will we invite outside capitalists to put their money in this State. In honor and fair dealing to the outside investors we cannot ask them to come into this State and take part in its development until we ourselves know that we can pledge the sacred honor of Texas to the safety of their property rights. We dare not invite investors from elsewhere to come into Texas and put their money here until, as honorable men, we are able to guarantee its safety.

And then with some such action as this, changing the "We ask" of Oklahoma to "We demand," unite all Texans in a fight unto the finish, to victory or to death, to make their State worthy in its legislation of its glorious history since the day when it freed itself from Mexican domination.

The work of the Commercial Clubs of Oklahoma was good in part. Some of the resolutions passed were strong and ringing and worthy of the men who composed that convention, but there were some which simply indicated an unwillingness to hit straight out from the shoulder and demand, rather than ask, the rights which the people of Oklahoma should be able to command. The start is good. Now let Oklahoma and Texas proceed to real business.

IN PRAISE OF LOUISIANA.

[New Orleans *Times-Democrat*.]

"Because we believe in the destiny of New Orleans and the great territory tributary to this city, the MANUFACTURERS' RECORD has established a branch office here," said Albert Phenis, staff correspondent of that paper, who is in charge of the local office. The office is located on the tenth floor of the Maison Blanche, the floor having been selected because it is set aside for representatives and agents of industrial concerns.

"While the MANUFACTURERS' RECORD has always sought to give constant attention to all that makes for the progress of the great Southwest, as well as for other portions of the South," said Mr. Phenis, "the present and prospective developments here have moved our people to get in still closer touch with this section, and the branch office is an expression of the faith we have in the progress of this section."

"I sometimes wonder," continued Mr. Phenis, "whether the people of Louisiana themselves really comprehend the very remarkable resources of this State, just as I feel that the whole South fails to realize its own potentialities whenever its people will use the best means for the development of its vast latent wealth. In many things Louisiana stands at the head of the column, and in others next to the head. It has the greatest sulphur deposit known in the world. Its sulphur now dominates the trade of Europe and America. Seven years ago this country produced one-half of 1 per cent. of the world's sulphur output. Last year it produced 35 per cent., and is rapidly gaining over the Italian sulphur interests which formerly controlled the sulphur industry of the world. Louisiana also has the largest oyster-canning factory in the United States, and that, of course, means in the world. It has the largest known salt deposit—a deposit which has been drilled to a depth of 2700 feet without reaching bottom. It has the largest pepper farm in the world. It ranks second in the output of lumber, exceeded, I believe, only by the State of Washington. It has the greatest water front of any State in the Union. The value of this water front is almost measureless in the development of the State. Louisiana stands, of course, first in sugar production, and has practically captured the rice trade of the country from the

Carolinas and Georgia. With such a remarkable combination of advantages, and I have named but few, Louisiana must inevitably become one of the greatest centers of industry and wealth in the world. Outside of its own natural resources—and they are great enough to enrich a nation—New Orleans, its chief city, should be the focusing point for the ever-expanding wealth and commerce of the vast territory known as the Mississippi valley. The conditions justify an expansion in trade and commerce many times greater than anything this section of the country has yet seen, and it is my sincere trust that we may be able to render substantial aid in this vastly important development work."

HEROICS.

"Collector Stone hero at Chicago. Upsets photographer who tries to snapshot Mrs. Longworth," were the display headlines of a dispatch from Chicago dealing with the National Republican Convention in that city.

Of course, as an appointee of an administration which has been consistent in assertion and action in opposition to the use of Federal offices for the promotion of party politics, the collector of customs at Baltimore was undoubtedly at Chicago awaiting the arrival of vessels from abroad. It is gratifying that he could find time from that duty to perform the unprecedented feat of heroism recorded in the headlines quoted. His case is respectfully referred to the trustees of the Carnegie Hero Fund.

A TYPICAL CAMPAIGN PLANK.

An Eastern newspaper published in its issue of June 18 two dispatches from Chicago describing Speaker Cannon's attitude toward the anti-injunction plank. One dispatch stated:

"Speaker Cannon is furiously angry with Senator Albert J. Hopkins, chairman of the resolutions committee, because of his support of an anti-injunction plank."

The second dispatch, quoting Speaker Cannon as approving the anti-injunction plank as adopted, said:

"Speaker Cannon, according to him, is just delighted with the platform. It pleases him all through."

THE COTTON MOVEMENT.

In his report for June 19 Col. Henry G. Hester, secretary of the New Orleans Cotton Exchange, shows that the amount of cotton brought into sight during the 293 days of the present season was 11,018,305 bales, a decrease of 2,143,589 bales under the same period last year. The exports were 7,111,832 bales, a decrease of 1,063,407 bales. The takings were, by Northern spinners, 1,717,362 bales, a decrease of 746,784 bales; by Southern spinners 2,066,276 bales, a decrease of 147,189 bales.

Norfolk Trucking.

It is estimated that Norfolk and Portsmouth banks are receiving on an average \$100,000 a day, representing shipments of produce from that section of Virginia. One day recently shipments from Norfolk to the North and West included 28,294 barrels of potatoes, 4903 barrels of cabbage, 13,083 barrels of beans, 3017 baskets of cucumbers, 41 barrels of beets, 180 barrels of apples, 213 barrels of tomatoes and 104 barrels of squashes.

Wants Plans and Bids.

The Hall-Moody Institute, M. W. Robinson, business manager, Martin, Tenn., wants plans and specifications and proposals for the construction of a \$15,000 dormitory of ordinary construction, with steam-heating plant and electric-lighting fixtures.

TEXAS-LOUISIANA INLAND WATERWAY.

[Special Correspondence
Manufacturers' Record.]

New Orleans, June 20, 1908.

The deep interest felt in the development of an inland waterway system extending from the Mississippi river to the Rio Grande, a distance of nearly 800 miles, is manifested in the attention which is being given everywhere along the proposed route to the visit of the United States Board of Engineers for Rivers and Harbors, who arrived in New Orleans from Washington Monday and began a trip of review that will take them as far as Galveston. The board is composed of Col. D. W. Lockwood, Major E. E. Winslow, Capt. W. J. Barden and A. H. Weber, secretary of the board. At New Orleans the members of the board were met by officers of the Board of Trade and other representative people of New Orleans and this section, and at once took a launch at Westwego, furnished by leading citizens of Terrebonne parish, and the trip was made through the company canal to Lake Salvador, and again by the company canal and Bayou Terrebonne to Montegut, where the boat was tied up for the night.

Getting an early start the next morning, a 40-mile ride was taken over the waters of the Terrebonne and connecting bayous between black coffee and breakfast, and the run to Houma was then made by about noontime. Here the launch was abandoned and carriages taken for a 12-mile ride to a point where Bayou Black became navigable, where another launch was taken to Gibson. Here a transfer was made at about sundown to a steamboat, and a picturesque ride, with the searchlight playing on the moss-foated live oaks that lined the banks, was taken down Bayou Black and Bayou Boeuf to Morgan City. The next day the board and others went through the recently-completed Atchafalaya Bay ship channel, and in the afternoon the board took the train for Lake Charles, where a formal hearing was given for the presentation of facts relating to the possible commerce that the Marmantian basin would give to the inland canal. A visit to the mines of the Union Sulphur Co. was an incident of the stay in Lake Charles.

After Lake Charles, Beaumont was the next stop, and then Galveston and Houston, and the board is scheduled to be back in New Orleans Tuesday, leaving for Washington Tuesday night.

The object of the Board in coming at this time was threefold. One was to examine and report on the feasibility and desirability of dredging and making navigable the Bayou Terrebonne from Thibodaux to its mouth in the Gulf, in accordance with a bill introduced by Congressman R. F. Broussard appropriating \$216,000 for that purpose. Another was to investigate the conditions relating to the commerce through the Atchafalaya Bay ship channel, and the enterprise itself, following a hearing before the Rivers and Harbors Committee last March, at which it was urged that the Government take over the enterprise and deepen and widen the channel, and the third was to review the question as to whether the board would recommend that the Government take up at this time the portions of the proposed inland waterway or intercoastal canal between the Calcasieu and Sabine rivers and from Galveston to the Rio Grande.

For a number of years the Government has been working in a desultory way on the construction of locks in the Bayou Plaquemine at Plaquemine. It is now promised that these locks will be completed within a few months. It was the original plan that through these locks the

proposed intercoastal canal would have its inlet at the Mississippi river, the route being down the Bayou Plaquemine into Grand river and across Grand Lake to Morgan City.

As a supplemental plan it has been advocated by the Board of Trade and others of New Orleans and by planters and others interested in the lower route that the Government also take over the canals of private ownership and open up and develop the waterways comprising the route the board was taken over this week, between New Orleans and Morgan City. It is declared that it would not require more than \$500,000 to give a canal 80 feet wide and at least 6 feet deep the entire distance from New Orleans to Morgan City via Houma, acquiring title to the private canals, and including also the improvement of Bayou Terrebonne, which work can be done, it is stated, for considerably less than the sum originally suggested.

Just what the Board of Engineers will recommend cannot, of course, be forecast in advance of their report; but that the members were much impressed with what they had seen was very evident. Colonel Lockwood had been over a part of the route, having spent some time in Terrebonne parish, but that was 25 years ago, and he saw no familiar vestige of the land he formerly knew. There were growing fields of corn and cane where before had been untillable swamps, and there was a degree of prosperity and advancement that occasioned frequent comment of a surprised and favorable sort.

A committee of citizens and members of the New Orleans Board of Trade recently made the same trip between New Orleans and Morgan City, headed by Mayor Martin Behrman and President Henry N. Schreiber of the Board of Trade, and they returned full of enthusiasm over the possibilities of a great development of trade between New Orleans and the interior that would follow the development of the proposed intercoastal canal along the route named. Not only would there be a great trade built up in oysters, fish, sugar, rice, etc., on the basis of the present development of the country traversed, but it was seen that such a system of waterways, affording cheap freights, accessibility to transportation and a saving in time even in cases where railroad facilities are afforded at present, must inevitably result in stimulating a much greater development of the entire region affected.

The basis of appeal to the Government is that this work, greater than individuals or communities can now undertake, is justified on the grounds of commerce, present and to come, and that there is also the element of the defense that such a system of inland waterways would provide in case of war, when torpedo-boats and smaller craft could safely make a lengthy cruise along the entire coast.

In the case of the Atchafalaya Bay ship channel, which is not strictly related to the intercoastal canal project, the appeal for governmental action is made on the ground that the commerce of the port of Morgan City entitles it to such consideration. A private corporation, formed after Government engineers had made unfavorable reports on the project on account of its computed cost, one estimate placing it at \$10,000,000, took hold of the work a year ago, and at a cost of only \$150,000 dug a channel nearly 11½ miles long, 100 feet wide at base and 14 feet deep from the Atchafalaya river to the Gulf of Mexico. The channel was opened for traffic October 15 last, and in spite of

the period of depression that immediately thereafter ensued, the log of vessels shows that between October 24 and April 16 there were 226 trips of vessels of all descriptions through the channel. With a total expenditure of \$500,000 the Government could take over this channel and widen it to 200 feet at the bottom and give it a depth of 20 feet. Morgan City itself has a fine harbor of vast extent, and with a depth of 80 to 100 feet, and surrounding it is one of the richest agricultural countries in the Union. According to figures submitted to the Board by Warren B. Reed, consulting engineer for the channel work, there would naturally pass through this channel to the Eastern markets 100,000,000 feet of cypress lumber, shingles and lath and tupelo gum; there would be an important development of Morgan City's oyster industry; a large portion of the 500,000 barrels of oil used as fuel by the sugar refineries of the section would come in through the channel; 100,000 tons of salt from the Avery and Weeks' Island salt mines would be shipped to New England to take the place of salt now imported from Europe; 90 per cent. of the 202,250 tons of granulated sugar produced by factories immediately tributary to the Atchafalaya Bay ship channel would be shipped to New York via this route at a saving of 11 cents per 100 pounds, and return cargoes of West Virginia coal could be brought from Norfolk and Newport News at a cost of \$1.50 per ton freight, which is the same as the rail freight from New Orleans, a distance of only 80 miles. "To this vast amount of commerce right at the doors of Morgan City, or directly on streams now connecting with the Atchafalaya river, there must be added," Mr. Reed argued, "the territory and commerce that will be available when the interstate inland waterway is completed. The completion of this inter-coastal canal, connecting all the bayous and rivers running to the Gulf in the State of Louisiana, makes necessary a port between Texas and New Orleans in order that the long haul be reduced and congestion avoided."

At the Lake Charles hearing the importance of the early construction of that portion of the intercoastal canal between the Calcasieu and Sabine rivers, so as to give the Mermentau basin seaport advantages, was presented by Congressman A. P. Pujo, Representative Leon Locke, J. C. Medlenka of Crowley and others. It was stated that the saving on freight rates on the products of the Mermentau basin would amount through the water transportation desired to more than \$400,000 a year. Of the 3,300,000 bushels of rice produced yearly in the United States, a large percentage was grown in the Mermentau basin; the 300,000 tons of sulphur annually mined in Calcasieu parish represented practically all the sulphur produced in the United States; 24,000 car-loads of lumber were shipped from the parish in 1907, and, including fuel oil to the amount of 153,300 tons, cotton, cattle, manufactured foodstuffs and miscellaneous merchandise, there were shipped out from the Mermentau basin last year some 280,000 tons of products. And the argument was made that on stuffs shipped in there would be an equal if not greater saving in freight costs by the completion of the canal.

ALBERT PHENIS.

The Nation and Nature.

Directors George Otis Smith of the United States Geological Survey, in an address this week at Colby College commencement, Waterville, Maine, discussing the nation's dependence upon nature, said:

"The increase in our per capita production and consumption of natural resources

perhaps furnishes the best index of the increasing dependence of the nation upon its natural resources. At the outbreak of the Civil War the per capita consumption of coal in this country was only a little over one-half ton; in 1900 it was about three and one-half tons, but in 1907 the consumption had increased to five and one-half tons. In 1850 our per capita consumption of lumber was 250 board feet; today it is undoubtedly close to 500 board feet. In 1870 our per capita production of iron ore was 160 pounds; last year it exceeded half a ton. Other metals might be cited where the increase has been great, as, for instance, copper, which is hardly less useful than iron, and cement, of which the country is just beginning to learn the use. The mineral fuels, iron, copper, cement and lumber, are simply the important letters in the alphabet with which man now spells industrial prosperity.

"The most valuable of all natural resources are water and soil. No more attractive field for increasing the country's available wealth lies before us today than that of determining the possibilities of our rivers and streams. Here we shall find the solution of the problems of improved inland water transportation, successful agriculture, cheap power development and adequate protection from floods. The rivers of Maine now turn wheels that furnish a total of somewhat more than 210,000 horse-power, and with proper storage facilities the full development of her water-powers might yield 1,200,000 horse-power. This conservative estimate of the importance of Maine's water-power is a fair index of the value of the nation's water resources, by far the larger part of which is yet undeveloped.

"Great soil loss is occasioned by tillage methods which permit surface washing. The soil waste thus started by mere negligence increases until the slopes are gullied, the bottom lands covered with waste, the streams choked and the navigable rivers filled with bars. So universal and persistent is this drain upon our resources that it is estimated that at least 1,000,000 tons of this nation's richest soil is annually carried into the sea by our rivers.

"The subjects of soil and water resources cannot be discussed without mention of the conserving influence of the forest. The records of flow of many rivers but too plainly show the effect of removing the forest cover. There is a vital relation between the forest and agriculture, manufacture and navigation. As the great conserver of other resources the forest deserves the nation's care."

Red River Improvement.

The convention of the Congressional Red River Association at Shreveport, La., last week called upon Congress to take action for the treatment and improvement of the Red river on the lines suggested in the following:

"The Red river of the South is one of the great waterways of our country. It is the third river in the United States in point of navigable length. It exceeds the Ohio river in this respect, and comes after the Mississippi and Missouri rivers. Steamboats, in seasons of high water, may ascend the Red river for a distance of over 1000 miles from the mouth, and adding the navigable length of the tributaries it forms a system embracing over 3000 miles of navigable waterways.

"This river is interstate in character and national in scope and importance. Its waters link together four great States of the Union—Louisiana, Texas, Arkansas and Oklahoma—and connect the great Southwest with the other sections of our common country. Through the lower 600 miles of its length it flows through an

alluvial valley of wonderful fertility. The country drained by the Red river is the home of the cotton plant, where this great staple product, which clothes the world, finds the soil, the climate and other conditions for its fullest fruition and highest development. It is also a great grain and hay and stock-growing region, and in the lower valley of the river the sugar-cane yields rich results to the practical planter. It abounds in mineral and timber products.

"A broad, comprehensive system of improvement of the river is what is needed—a permanent plan devised by the best engineering skill of the National Government, to be adopted by Congress and persistently and continuously worked at until completed. This plan should embrace all the features adopted by the Mississippi River Commission for the treatment of that great river—improvement of navigation, construction of levees to prevent floods, protecting the banks from abrasion and caving, etc., and in addition the conservation of the waters by their storage in reservoirs in the upper sections of country drained by the river and in the chain of lakes above the city of Shreveport, leading up to Jefferson, Texas, this to the end of holding back the waters from the alluvial valley in times of floods, letting it out to better navigability of the river further up stream, and restoring navigation through the lakes to Jefferson and other Texas points.

"The plan adopted should also embrace the conservation of the forests along the upper reaches of the river.

"To devise such a plan and execute its adoption by Congress there is needed a board of engineers composed of, say, three members to be designated by the President of the United States, to be known as the United States Board of Engineers for the Improvement of Red River, whose headquarters should be at some convenient point on the river, and whose whole time and attention shall be given to the river and its needs."

The convention elected Messrs. Morris Sheppard of Texas, president; C. B. Randall of Texas, Newton C. Blanchard of Louisiana, W. M. B. Cravens of Arkansas and C. B. Carter of Oklahoma, vice-presidents; W. A. Bills of Texas, treasurer. The election of a secretary was left to the executive committee, and adjournment was had until December 3 at Denison, Texas.

Getting the Most from Plants.

An address before the senior class of the Stevens Institute of Technology by Mr. H. L. Gantt of Pawtucket, R. I., who has made a specialty of economical shop management, has been printed in pamphlet form for the benefit of persons interested in the subject of task and bonus in management. The address deals with results of applying the task and bonus system to the management of a small factory, and the results are summarized in output doubled, number of employees reduced from 45 to 30, the total operating expense slightly reduced, everybody satisfied and ability to get out the former output with one-half the former expense. Mr. Gantt discusses in detail the problem to be solved in the particular factory and classes, as of benefit to the employer, quicker work, cheaper work, better work, and, as of benefit to the employees, better wages, increased skill and better habits of work and more pleasure in work. He says that better work comes from the careful inspection and through the attention needed to do high-speed work leading to greater skill in the worker and an increasing pride in doing work well. He finds that bonus workers cease to regard the clock as a monitor keeping them at work, but race with it to the end of the day, take pride

in doing more than their task and have the satisfaction of getting the increased pay. The total result is co-operation of the best kind, allowing, though, the individuality of the worker full play, but not until after he has been taught to perform his task by the best method and subject to conditions that he must not depart from that method without permission. He adds:

"When these methods here have been perfectly installed it is not infrequent to find work which has been done at a loss, yielding a handsome profit, and plants that were entirely inadequate for the work they had to do under the old system, having double their former capacity under the new system.

"These facts force upon us the conclusion that before building a new plant, or even increasing the size of an old one, we should make a thorough study of the work being done, and assure ourselves that the plant is being operated in such a harmonious manner that we are really obtaining the maximum output. Such an investigation will usually demonstrate that better management and not a larger plant is needed. If it should also show the need of a larger plant such a plant can then be built much more intelligently than before the investigation was made."

Portland Cement for Panama.

The Isthmian Canal Commission, purchasing department, Washington, D. C., has opened the bids for furnishing 4,500,000 barrels of Portland cement, proposals for which were invited some time ago. All bids have been forwarded to the Isthmus for recommendations, and these have not as yet been received in Washington. It is understood that the Atlas Portland Cement Co. of New York city, at its bid of \$1.19 per barrel at Jersey City or Hoboken, or the Santa Cruz Portland Cement Co. of San Francisco, Cal., at its bid of \$1.18 $\frac{3}{4}$ per barrel at Oakland, Cal., will be awarded the contract. The delivery will probably extend over three years at the rate of 4500 barrels daily.

Biloxi's Harbor.

Mr. D. L. Mitchell, corresponding secretary of the Biloxi Commercial Club, writing to the MANUFACTURERS' RECORD, says:

"The United States Board of Engineers, acting under special orders of the Secretary of War, has just completed a detailed survey of our harbor, which shows that 12 feet of water can easily be obtained from Back bay out into the Gulf of Mexico. If this was secured our railroad project which was started some months ago would be a variety. One of our greatest and most imperative necessities for the accommodation of the 3000 of summer and winter annual visitors is a first-class hotel."

Wants Plans for \$20,000 School.

Architects will be interested to know that J. W. Saunders, Mayor, and the Board of Aldermen, Charleston, Miss., will receive competitive plans until July 7 for a \$20,000 school building. The structure is to have six classrooms and an auditorium, and be arranged for sewerage, heating and lighting.

The Baltimore Steamboat & Storage Co. has filed a mortgage to secure \$2,500,000 of 5 per cent. bonds with the Knickerbocker Trust Co. of New York as trustee. The company proposes to operate steamers between Baltimore and points on Chesapeake bay. Philip U. Harvey is president and Howard Tebbs counsel for the steamboat company, both of Baltimore.

Wallace O'Leary of Corpus Christi, Texas, will, it is reported, establish a steamship line between that city and Galveston, Texas.

NEAR-UNIFORMITY PRICES.

Conditions of the Week in the Birmingham Iron Market.

[Special Cor. Manufacturers' Record.]

Birmingham, Ala., June 22.

You can't find anyone here connected with the iron trade who will risk his reputation by asserting that the market is weak. It seems to be in about the same condition as it was last week, with the same prices prevailing and with the same conditions surrounding it. There is a near uniformity in prices, resulting from similarity of conditions common to all the ironmakers. But there is no agreement, even of tentative character, among the various interests. They are all acting in a very conservative way, and seem to have every faith in at least the maintenance of values. The sales the past week were of a moderate amount only, and the business was largely in small and medium-size orders. One of the leading interests report sales materially in excess of their current make, which leads to the conclusion that the fourth quarter would come in for a fair share of the deliveries on the sales. As a rule, there is but little disposition to go into selling for delivery during the fourth quarter, but some have let go against their inclination in favor of approved buyers. When they did it was always with a premium over the cash or nearby delivery price. It is not a difficult matter to get the market price. As a rule, for small lots and acceptable delivery \$12.50 is the common price, and in some cases when special requirements are demanded then the price obtained has been \$13, and occasionally \$12.75. For larger business the price was \$12 for spot and nearby delivery; but when you came to delivery for the third and fourth quarters, or for each separately, then the price was uniformly \$12.50, and from this price there was very little deviation. Some business was offered for the first quarter and some was accepted, but the price obtained has been withheld. For the first quarter of 1909 more business could have been taken if the sellers had favored sales.

It is current gossip in the market that the Williamson furnace will go into commission on the first day of July. The lessees are B. F. Wilson and his associates. Mr. Wilson has been connected with the furnace at Oxmoor, and knows how to make iron.

It is gossip in the market that the Republic Company will soon put in a furnace to run altogether on basic iron. The report is from good sources, but not official.

Within the last 30 days four additional furnaces have been placed in commission, but every one of them was put in by the Tennessee Coal, Iron & Railroad Co. For every one outside of these put in one has been taken out. So that in the 30 days past there has been no other increase in furnace capacity. We now have 20 operating furnaces, against 16 30 days ago, with the most of them turning out basic that were lately put in commission. If an additional increase is determined upon in the near future the determination is well kept. It has not been made public. There seems to be no disposition to blow in fresh furnaces except as necessity demands. As occasion prompts they will be put in, but there will be no glut of iron made to be piled in the furnace yards awaiting buyers. It is better to pile the ore. All the preliminaries that can be made to ensure a prompt start when desired have been made, and the supply is simply waiting on the demand. It is a well-recognized fact among those who have kept "tab" on the buyers that there are several large buyers who have not yet covered their requirements, and it is felt that it is simply a question of time when

they will be compelled to enter the market to supply their necessities. These will only increase as they delay the inevitable time for their purchases. When they come in there will be the inevitable scramble for what is in sight and what can be obtained for deferred delivery. When that time comes there will be a rush to start up the idle furnaces or to increase the output of those in condition for it. The scarcity of the lower grades heretofore mentioned continues, but the chances favor a diminution of this condition in the near future. In diagnosing market conditions one should not forget to consider that the output of the Tennessee Coal, Iron & Railroad Co. will be mainly needed for its own use. This will, for a while, anyway, take a very important and influential influence out of the market at times to meet their own requirements.

Very few pipe orders of importance have come up during the past week. A large interest in the West is in the market for a 1400-ton order, which will doubtless be secured by one of the companies here. A noticeable feature has been the number of carload orders received during the week at prices much in advance of those of last week. Several small contracts will be placed this week in this district for pipe at Dixon, Tenn.; Shelby, N. C.; Lancaster, S. C., etc. Prices are very firm; \$21 for four-inch, \$20 for 6-inch to 12-inch, and \$19.50 for larger sizes. These prices are shaded very little on large tonnages.

The South has practically no stocks in marketable sizes and classes. Some foundries show stock in larger sizes, but they are almost without exception the rejects from some closely-inspected municipal order held for shipment to railroads on culvert pipe orders. Numerous lettings are scheduled for the next 30 days for tonnage from 300 to 600 tons, but there are no lettings for heavy tonnage in prospect for that period.

The market for scrap iron shows some improvement, and those grades in usual request have been advanced. Other grades are reported as very firm, although there is as yet no absolute advance in prices. The demand shows an increased interest in the market, and it is fast getting into position to follow any further marking up of the pig-iron market. Quotations as given by Weller & Co. are as follows:

Old iron rails, \$14 to \$14.50.
Old iron axles, \$15 to \$15.50.
Old steel axles, \$14 to \$14.50.
No. 1 country wrought, \$12.
No. 2 country wrought, \$11.50.
No. 1 railroad wrought, \$13.50.
No. 2 railroad wrought, \$11.50.
Old car wheels, \$12.50.
No. 1 malleable, \$11.50.
Machinery castings, \$10 to \$10.50.
Wrought-iron pipes and flues, \$10.50.
No. 1 steel, \$10.50.
Stove plate, \$9.50.
Cast borings, \$6.50.

There have been several notices given of intention on the part of several industries to establish plants in this district. In addition to those named below, there are others who are examining sites for contemplated plants. The Harbison-Walker Refractories Co. of Pittsburg, controlling 20 or more subsidiary plants, with the parent located at Pittsburg, is reported as contemplating the erection of a plant in this district to cost \$250,000 or more. H. W. Croft, the president of the company, was here for several days. The company makes fire-brick and other refractories. The suggested location is near the new frog and switch plant, whose erection will cost \$100,000 or more, and for which ground has already been broken.

Besides the making of switches and frogs, this industry will add some railroad sundries. The plan is in due course of time to have this followed by addition that will be larger than the parent. A site of 12 acres has been secured, and when in operation 200 or more men will be employed.

Then there is being born a new water-pipe plant, to be located near the foundry, at the head of which is local talent allied to strong outside financial interests. The estimated cost of this plant is around \$100,000. A full announcement is looked for daily.

Then there is strong gossip concerning the erection of a steel structural works. The promoters have secured an option on 20 acres of land near Ensley, and have others to examine. North Birmingham is endeavoring to secure the location. Its realization is assured.

The old Helena rolling mill and pipe works has been secured by George W. Connors from Atlanta, who has been connected with the Atlanta Steel Co. for a long period, and will be converted into a hoop and cotton-tie mill just as soon as effort can effect the change. The location is 17 miles south, and directly on the Louisville & Nashville Railroad. There is a well-authenticated rumor in circulation to the effect that the last obstacle in the way of the erection of another skyscraper has been surmounted, and the long-talked-of building at the corner of Fifth avenue and 21st street will now become a certainty. The town is growing, and accommodations for the increased business must be provided.

The Graves-Matthews Paving Co. was notified the past week by the city of Gulfport that it had secured the contract to pave 30 blocks of that city with vitrified brick. It is approximately a \$100,000 job.

We have now reached the point where we are doing things. But the roughest part of the trail has been passed, and prosperity now is going hand in hand with effort. There are more enterprises on the "tapis," but not yet of sufficient definiteness to herald. J. M. K.

AUGUSTA IMPROVEMENTS.

Municipal and Individual Building Operations.

[Special Cor. Manufacturers' Record.]

Augusta, Ga., June 22.

The construction of the new City Hall will be one of the greatest undertakings of the season, and there is no doubt but that \$300,000 will be ultimately expended on the project before it is finished completely. The site has long since been paid for, and the structure will be located just in front of the Union Station, three blocks from the business center of the city. All plans have been completed and the specifications and details are all mapped. Bids will be asked for by the City Hall Commission some time during the coming week, and it is planned to have work commence as soon after the contract is awarded as possible. The city is very much in need of a building, and the improvement will not be completed before needed, in the estimation of the city officials and the general public as well.

Adjoining the City Hall site is a similar piece of property, which, it is understood, will be purchased by the United States and used for a Government building site. Congress has already appropriated \$35,000 for the purchase of a site, and it is the intention of the officials to secure something like \$300,000 for a public building at the next term of Congress. With these two buildings fronting the Union Station, which is an elegant and commodious building itself, the city would present an imposing scene from the moment a visitor landed in town.

The new Irish-American Bank building

is being constructed just above the National Bank of Augusta, and it will be completed and ready for occupancy by October 1. The present structure represents an outlay of \$50,000, and when it is finished there will be four elegant bank buildings adjoining each other, and each owned by the institution occupying it.

The construction of a three-story business building on the Vason property on Broad street is being pushed rapidly to conclusion, and when it is finished it will add materially to the appearance of the 800 block of Broadway. Other improvements of similar nature are going on along Broad street, and there is no lethargy to be noted in this line in Augusta.

The city is doing an immense amount of paving, and several streets are being finished with vitrified brick, which are considered admirable for the work in question. Other city improvements are noted, including the park and sidewalk extension work.

The erection of the buildings of the Perkins Lumber Co., to replace those recently destroyed by fire, has just begun, and when they are completed they will be better than ever. The loss occasioned by the fire amounted to something over \$75,000, most of which was to the lumber company, as only a few adjoining residences were burned.

Many handsome residences are going up in Summerville, the residence suburb of the city, and local lumber dealers are finding difficulty in supplying the demand made upon them for building material.

J. C. McAULIFFE.

STIRRING AT CHARLESTON.

Industrial Manifestations in West Virginia Capital.

[Special Cor. Manufacturers' Record.]

Charleston, W. Va., June 20.

That Charleston has felt the dulling effects of the prevailing financial uncertainty cannot, of course, be gainsaid, but I believe it must be admitted that the blow fell more lightly here than almost anywhere else in the country. At least the effect of it has been less deadly and the rally from it more ready and more rapid. The reason for this is easily reached. While the past six or seven years have brought rapid growth and many new enterprises to this city, there was not that heedless overcrowding in any line that is so commonly found in cities that enjoy great and sudden growth, and the period of depression did not find business overdone in any department; the banking of the city had been along safe and conservative lines; real-estate prices, while they seemed to have advanced rapidly, did not reach the level established in other cities of equal or even less accomplishment or promise. The net result has been continued activity in manufacturing lines; a building rate that would be considered excellent in any city not accustomed to the rush which has been going on here for some years past, and the entire absence of any important failure in business. And now, having weathered the storm without springing a seam, the people are beginning to feel again the thrill of progress, to take interest in new industries and lay plans for further commercial and industrial triumphs.

Just now the enterprising men of the city, led by the Chamber of Commerce, are engaged in an effort to procure the location here of a large pipe-wrench factory that will give employment to some 300 workmen. The provisions in the proposition made by the promoters of the scheme have practically been met, and the final consummation of the deal is probably a matter of a very short time. The factory will be located in South Charleston, taking

advantage of the excellent free-sites and the five-cent gas offered by the promoters of that hustling young factory suburb.

By the way, a visit to that same suburb a day or two ago made me aware of the fact that it is about the busiest place to be found on the map of West Virginia. Plotted from the cornfield less than a year ago, it exhibits today all the signs of a busy, bustling city, with factories, stores, churches, schoolhouses, dwellings, cement sidewalks, railroad sidings and depot buildings, and the many other concomitants of an active and growing municipality. The Banner Window Glass Co., which moved here from Shirley, Ind., last year, is in full operation, working three eight-hour shifts, with its product sold as rapidly as it can be turned out. This concern employs 150 people. The Dunkirk Window Glass Co., which came from Dunkirk, Ind., has about completed its buildings, and will begin making glass about August 15. It will have twice the capacity of the Banner concern, employing twice as many men.

The Kenton Iron & Steel Co. has finished its plant sufficiently to allow it to turn out work, and is now employing 25 to 30 men. The Hemlock Lumber Co. is running its planing mill full time, and will probably put on a night shift to meet the demand for lumber for the new houses that are being built and to be built during the season, and the cement-block plant is working to its full capacity in the effort to keep up with its orders. Cement sidewalks are being laid on many of the streets of the town, new dwellings are in course of erection on every hand, and the general air is one of great activity. There is a strong demand for more dwellings, and many will have to be constructed to furnish homes for the men who will find employment in the big glass plant when it starts up.

The Kanawha Chemical Engine Co., which began the manufacture of chemical engines in this city about a year ago, is putting up a large plant in South Charleston, rendered necessary by its increasing business. So popular is the machine turned out by this concern and so great the demand for it that it has more orders than it can fill from its present establishment, and was compelled to provide quarters where more machinery could be installed and more work done. Its building is fast approaching completion, and within a month or two it will add its working force to the population of the new town.

The big bridge being built across the Kanawha river to connect Charleston and South Charleston is progressing satisfactorily just now. The work was greatly hindered and delayed during the winter and spring by the unprecedented number of rises in the river, which made progress on the piers and abutments slow and expensive. These have now been carried above the water line and will be completed ready for the steel in a short time. The approaches on the city side have been finished ready for the steel for some months, and those on the other side will be ready very shortly. The steel is ready to be shipped from the mills, so report has it, and the entire structure will undoubtedly be finished in a few weeks. This bridge will have a roadway, a walkway, and steel tracks for the traction line and the freight business of the four railroads centering here. It will be of great convenience in many ways and of the highest value and importance to South Charleston.

Two other bridges are in course of construction in the city, designed to connect the two parts of the municipality lying upon either side of the Elk river. One of these is being built by the city and the traction line in partnership, and will be used by both; the other will be for the use

of the city only, and will not carry the traction line.

Less than two years ago the people of Charleston voted to issue bonds to the amount of \$250,000, the proceeds to be used principally for putting in a sewer system. Less than a year ago they voted \$150,000 more for the same general purpose. Next month they will vote for a still further issue of \$300,000, for the purpose of paving some eight miles of streets as yet unpaved. I say they will vote for this issue, because the record of past elections for like purposes justifies the belief that the same spirit of progress that has prompted the voting heretofore still animates them and that their decision will again be in favor of a continuance of public improvements. The inauguration of so large an amount of street work, in addition to that now under way, will mean much in the way of distributing money throughout the city, as it will give employment to a great many people, some to be found here now unemployed, but by far the larger part to be brought in from among the unemployed in other localities.

There is much interest being manifested here with respect to the persistent report that the Virginian Railway has purchased the Kanawha & Michigan and will run through this city over its tracks. This will mean the bridging of the Great Kanawha at Deepwater, the present western terminus of the Virginian, and the bringing into Charleston of another great trunk line. It will also mean the securing to the Virginian of an excellent outlet to the Great Lakes, making it, from lake to ocean, one of the most important coal-carrying roads of the country. President Page, who was in the city last week, said he thought the Virginian road would be completed through to Norfolk by the beginning of 1909. When this is done, only the revival of business will be necessary to witness the development of a great new coal field along the line of the road on the waters of Lower Loup, Paint, Coal river and the Guyan, and Raleigh and Wyoming will rapidly take prominent places in the growing list of West Virginia's great wealth-producing counties. This city will, of course, reap great benefit from such development in any event, but if the reported purchase of the Kanawha & Michigan road proves true, the advantage obtained will be tenfold.

Charleston is now the center of more oil and gas interest than any other point in the State. The oil development of the past year in the Green Creek field, a few miles north, brought to the city a great many oil men from all over the country, and the farmers' lands were taken up by the thousands of acres at rentals that yielded them a great deal of money. Recently a pool has been struck near Griffithsville, in Lincoln county, some 16 miles southwest of the city, and not only has the territory in that neighborhood been in large demand for lease, but everything between there and the Green Creek territory has also come into the market, as it is all supposed to be underlaid with oil. Of some 20 wells drilled in the Green Creek field not one has been dry, and the oil men believe they are about to develop a very large pool. It has been believed for years that such a pool would be found somewhere near here, as big gas wells had been struck in many places, and from that fact was argued the proximity of oil in large quantities. Since the oil has actually been found the excitement has become intense, and many people who have hitherto held aloof from this most exciting gamble are now trying their chances with stock in leasing and development companies. The terrible condition of the country roads, or, more strictly speaking, the lack of roads through the country, has proved a great

handicap to more rapid production, as it was almost impossible during the winter and the very wet spring to haul drilling outfits from the railroads to the locations for wells. With a few weeks of dry weather scores of strings of tools will be hauled in and set to work in the development of this great source of wealth.

GEO. BYRNE.

Electrical Engineers.

The program for the twenty-fifth annual convention of the American Institute of American Engineers at Atlantic City, N. J., June 29-July 3, includes the following papers:

"Electricity as Viewed by the Insurance Engineer. Should the A. I. E. E. Interest Itself in Fire Protection?" C. M. Goddard; "Water-Power Development in the National Forests—A Suggested Government Policy," F. G. Baum; "A Study of Multi-office Automatic Switchboard Telephone Systems," W. Lee Campbell; "Wireless Telephony," R. A. Fessenden; "The Measurement of Rotary Speeds of Dynamo Machines by the Stroboscopic Fork," A. E. Kennelly and S. E. Whiting; "Notes on the Electric Heating Plant of the Biltmore Estate," Chas. E. Waddell; "Measurements of Lightning, Aluminum Lightning Arresters, Earth Resistances, Cement Resistances and Kindred Tests," E. E. F. Creighton; "Tests with Arcing Grounds and Connections," Ernst J. Berg; "Three-Phase Power Factory," Austin Burt; "Critical Study of the Taylor's Falls Lightning Records," Percy H. Thomas; "Engineering Features of the Southern Power Co.'s System," J. W. Fraser; "High-Voltage Experiments at Niagara," Ralph D. Mershon; "Fundamental Considerations Governing the Design of Transmission Line Structures," D. R. Scholes; "The Testing of High-Voltage Line Insulators," C. E. Skinner; "Voltage Ratio in Synchronous Converters, with Special Reference to the Split-Pole Converter," Comfort A. Adams; "Application of Storage Batteries to Regulation of Alternating-Current Systems," J. Lester Woodbridge; "A New Large Generator for Niagara Falls," B. A. Behrend; "Modern Developments in Single-Phase Generators," W. L. Waters; "Application of Fractional-Pitch Windings to Alternating-Current Generators," Jens Bach-Wiig; "Steam Turbine Plant; Some Possibilities Resulting from Recent Engineering Developments," J. R. Bibbins; "Thirty-Day Test on Producer-Gas Power Plant; Discussion of Results in Relation to Cost of Power," J. R. Bibbins; "From Steam to Electricity on a Single-Track Road," J. B. Whitehead; "Induction Motors for Multispeed Service with Particular Reference to Cascade Operation," H. C. Specht; "The Determination of the Economic Location of Substations in Electric Railways," Gerard B. Werner; "Conductor Rail Measurements," S. B. Fortenbaugh; "The General Equations of the Electric Circuit," C. P. Steinmetz; "Primary Standard of Light," C. P. Steinmetz; "An Imperfection in the Usual Statement of the Fundamental Law of Electro-magnetic Induction," Carl Hering; "Graphical Treatment of the Rotating Field," R. E. Hellmund; "A Minimum Work Method for the Solution of Alternating-Current Problems," Harold Pender; "The Relative Proportions of Copper and Iron in Alternators," Carl J. Fechheimer; "A New Method of Training Engineers," M. W. Alexander; "The Relation of the Manufacturing Company to the Technical Graduate," D. B. Rushmore; "The Relation of the Manufacturing Company to the Technical Graduate," B. A. Behrend.

The Central West Texas Association of Commercial Clubs has elected Messrs. L.

M. Buie, Stamford, president; B. Reagan, Big Springs, vice-president; George S. Berry, Merkel, treasurer; O. P. Thomas, Abilene, secretary; James P. Stinson, Anson; T. E. Mathews, Haskell; W. T. Potter, Merkel; J. R. Vance, Stanton; T. E. Powell, Baird; E. E. Shannon, Hamlin; R. L. Penick, Stamford; W. C. Sherrod, Munday, and W. G. Webb, Albany, directors.

An official letter from the New River Company, S. Dixon, general manager, Macdonald, W. Va., to the MANUFACTURERS' RECORD says that the press report that the "White Oak Railway" would issue \$400,000 of bonds was erroneous. The bonds proposed to be issued were for the White Oak Transportation Co., which has steamers running between Newport News and New England ports.

Women of Shreveport, La., are preparing to launch through the Civic League of that city a movement to bring about active co-operation between women's organizations of the country and the National Rivers and Harbors Congress to speed the work for the improvement of the country's waterways.

The North Carolina Board of Geological Survey, composed of Governor R. B. Glenn, Hugh MacRae of Wilmington, H. E. Fries of Winston-Salem, Frank Wood of Edenton and Frank Hewitt of Asheville, has commended the suggestion that a commission be appointed to further the drainage of swamp land in the State.

Mr. John Donnan of the W. S. Donnan Hardware Co. of Richmond, Va., has accepted a position of secretary-treasurer of the Southern Hardware Jobbers' Association, of which Mr. W. L. Sanford of the Roberts, Sanford & Taylor Company, wholesale hardware, Sherman, Texas, is president.

About 100 leading citizens of Lake Charles, La., and vicinity urged last week upon the attention of a party of United States engineers studying the situation the reasons for the building of the section of the Texas-Louisiana intercoastal canal, extending from the Mermontau to the Sabine.

For a consideration representing \$120,000 a tract of 5300 acres of land 14 miles south of Houston, Texas, was bought last week by Dr. R. W. Knox of Houston, according to the *Daily Post* of that city, and it will be divided into small truck farms and orchards.

The Chamber of Commerce of Beaumont, Texas, is circulating a pamphlet of 60-odd pages, giving in compact form definite information about the agricultural, mineral and industrial opportunities in the territory immediately tributary to that city.

Mayor William Ginnuth of Temple, Texas, writes to the MANUFACTURERS' RECORD suggesting that there is an opportunity for a gas plant in his city, and also for an interurban railway connecting Temple and the hot wells of that section and passing through a fine agricultural community producing cotton, corn, oats, wheat, fruit and vegetables.

It is reported that Mr. A. Hoidale of Minneapolis, Minn., part owner of a tract of 2000 acres of land near Friendswood, Texas, is preparing to colonize the land with Swedes from Minnesota and other Northern States.

From 5000 of the 30,000 peach trees planted on 240 acres of land at Waltertown, Ware county, Ga., it is expected that more than 8000 crates of peaches will be gathered this season.

CURRENT EVENTS AS VIEWED BY OTHERS

WHY RAILROAD BUILDING CEASES

[Tulsa (Okla.) *Daily World*.]

Whenever complaint has been made that the Oklahoma official regime has been and is blocking industrial development, the answer has been a quick demand for something specific. While a public sentiment, as evinced by irresponsible public utterances and demagogic appeals, is almost if not quite as disturbing and menacing as official acts and legislative requirements, the latter have not been by any means rare, and if the legislative committee appointed by the Commercial Club Federation sets about its duties diligently, it will have a report to make later on that will cause considerable stir.

Complaint has been general that construction work on the many lines of railroad that were projected at the time of statehood has ceased, and that as a consequence the State was losing sadly in the one industry that means more to it than any other. And yet the cause for this suspension of activity in railroad building appears perfectly logical and sound.

In Section 9 of the chapter of the State Constitution given over to corporations we find these restrictions:

It may be urged that constitutional provisions are not always to be construed literally, but are to be given their broadest construction. Very good. It is an impossible task to give any other meaning than is plainly and specifically set forth in the text, and that meaning is simply that a railroad chartered under the laws of Oklahoma is forbidden to sell, by any process whatever, to any other company or corporation. The full import of this provision is better understood when it is remembered that the majority of new roads in the West were built by promoters and then sold to some connecting line for operation. Ninety per cent. of the mileage in Oklahoma was constructed by this process, and not a single mile of it could or would have been built under such a provision as this we are considering.

A company organized under the present laws of this State to construct a railroad would find itself absolutely unable to secure funds for that task. Its bonds would not sell, because there would be the assurance that, whether the road paid or not, it could not be sold to a connecting line that might operate it profitably, and the further menace that such a sale could not be made, even by judicial process.

It may be further argued that ample provision is made for existing roads to construct lines between any point in the State. That is true. But this provision, in connection with the one we have just been considering, gives over to the lines now in operation an absolute monopoly of the railroad business in the State, and that can hardly be considered a good policy. Certainly it is not consistent with the avowed purposes of the present political regime. And this provision further means that no new feeders will be built, for the old systems throw out their feeders only when forced to do so, either by the activity of a competing line or the building of a new line that their interests force them to purchase and operate. It is of little importance to a railroad company whether the producer hauls his commodity 10 or 100 miles, if, in the end, the road gets the business. But it is a matter of vast importance to the producer and to the business men of those towns and communities far removed from railroads. In such conditions there is always the latent germ of a new road, and eventually it is

built by those men who realize its importance to their own welfare and force its construction and its sale to some trunk system.

It would appear that those who are seeking a cause for the sudden falling off in railroad activity in Oklahoma need look no further than section 9 of the chapter in the State constitution dealing with corporations. That, and the unlimited power vested in the corporation commission, is the answer.

A CONFIDENT COMMUNITY.

[Mobile *Register*.]

A prime cause of individual discontent is the habit of mind that fixes its attention upon others' success and takes little account of the individual's own accomplishments. If a man compares his situation with that of those who have done as well as he or worse, he will find reason for congratulation. If he has in view only those persons who have succeeded more than he, he will have abundant discontent. What is true of individuals is true also of communities. If we look around us, we cannot fail to observe that Mobile, although not as active as before the panic, has survived that great financial disturbance in excellent shape, her industrial, commercial and financial institutions more than holding their own and the general trade being satisfactory, all conditions being considered, and Mobile will be among the first to begin her wonderful forward progress; in fact, has already begun, as recent notes printed in this paper demonstrate. In the natural course this city, situated upon deep water, backed by her great system of rivers, and having numerous and important railways tributary to her, with her sundry forms of commerce and industrial activity, must revive rapidly. Moreover, a city so situated cannot be very greatly depressed, because it is impossible that all her varied employments can be affected at the same time. Not being dependent upon any one source of revenue, or even a few sources, there is always something doing here and always opportunity for further expansion. Our people, therefore, should—and will, no doubt—preserve a cheerful frame of mind and look forward to better times than even the best they have had in the past. There was nothing unsubstantial or boomlike in Mobile's recent growth, little or no inflation of values, and no marked recession has taken place. Being upon a sound business basis, this city goes through the test of settlement day in good shape and faces the future with confidence.

MISAPPLIED ENERGIES.

[Asheville *Citizen*.]

The MANUFACTURERS' RECORD opines that if half the energy which is sometimes expended in political agitations was devoted to industrial development Georgia and other Southern States would profit materially thereby. Everybody knows that the campaign which recently closed in Georgia was a record-breaker, as far as the expenditure of money and energy is concerned. Business throughout the State of Georgia was practically at a standstill, and everything was given up to politics. The merchants complained loudly, but to no purpose. The publication referred to wonders how it is that men cannot be imbued with the same activity when their own interests are at stake. It says:

"For months Georgia has been stirred with an activity in political affairs which ought to illustrate how every State in the South could be stirred with activity

in material upbuilding. If the press and the people of the South would bend their energies to the advancement of business interests with the sleepless energy which the people and the press of Georgia have for months given to political discussion and work, there would soon be seen a material upbuilding from Maryland to Texas which would make the South the wonder of the world. If men can be so imbued with energy in political affairs, why can't the same energy now be wisely directed to the things which concern the progress and prosperity of the people, viz., the utilization of the natural resources of the South as a basis out of which to create abundant prosperity to the blessing of everybody."

It is a well-known fact that national campaigns put an effectual block to all lines of business, and merchants, who profit by experience, prepare themselves for the decrease in revenues. The only reason that can be assigned for such conditions is the fact that the public is kept in a constant state of turmoil and agitation, and in the months that precede a national election people give little thought to their own needs or those of the community. Doubtless it will always be so as long as an indefinite line separates the two parties.

SOUTH LOUISIANA.

[New Orleans *Picayune*.]

The commission of United States engineers which has for several days past been inspecting the natural waterways of Southern Louisiana must have been astonished at the wealth with which nature's resources in aid of navigation have been bestowed on that region.

Not only is there a complete network of natural channels, many of which are now capable of being used for purposes of commercial transportation, but with comparatively little work and outlay they may be made of enormous commercial value.

It is true that a great part of the country inspected is unsettled and at present uninhabitable, but it can be made a region of homes and farms as safe and sanitary as is Holland, with the most fertile lands upon the globe and a climate that could not by any possibility be more delightful than it already enjoys.

Louisiana is a remarkable State, rich in natural gifts beyond the imagination of those who do not know it, and surprising with its unexpected revelations those who thought they did know it. Its resources of rock salt, sulphur and petroleum have astonished the world, while its forests, her fisheries and the fertility of the soil and the charms of the climate challenge comparison, being unequalled in any land.

Whether the visit of the commission of engineers shall mean anything practical or not in the near future, it is worth while at least to have the State's natural wealth made known to the world. Sooner or later the grandest development ever imagined will be made and unspeakable wealth will result.

JENNINGS OIL FIELD DEAL.

[Beaumont Special to Galveston *News*.]

In the office of the J. M. Guffey Petroleum Co. this afternoon the signatures of all parties were attached to the documents which mean the transfer of all the interests of the Jennings-Heywood oil syndicate, the Jennings Oil Co. and the Heywood Bros. in the Jennings (La.) oil field to the Gulf Company of Louisiana, a corporation owned by the Mellon interests of Pittsburgh, which also owns the J. M. Guffey Petroleum Co. and the Gulf Pipe Line

Co. By the terms of this sale the Heywood concerns transfer all the physical property, such as oil, pumping rigs, pipe lines, loading racks, drilling rigs, storage tanks, and, in fact, everything on top the ground. The Heywood corporations retain absolutely all real estate and leases. In brief, the Heywoods retain all the oil rights, but everything else is included in the sale.

The terms of the sale are \$300,000 cash, and the Heywoods are to receive a graduated royalty ranging from 20 to 40 per cent. on all oil subsequently taken from the ground which they own or upon which they have leases. All contracts for sale of oil held by the Heywood concerns will be fully protected by the new owners. The sale is effective on June 15, and the new owners are now in full possession. By this deal the Guffey interests gain control of the Jennings field by possession of two-thirds of the entire production of that field and all the advantages for handling the oil.

AUTOS ON THE FARM.

[Boston *Transcript*.]

Some time next fall there will be held at Palermo, Italy, a competition for motor machinery adapted to viticulture. Cash prizes of \$2000 and \$600, respectively, to say nothing of a governmental diploma and a gold medal, will be given to the most successful competitors. The competition, while it is part and parcel of the interest which the adaptation of the automobile to agriculture is arousing throughout Europe, is significant of the high degree to which modern Italy is evidently determined to utilize her natural resources.

Italy has already, for example, done so much to develop its water-power as a source of electrical energy that it presents a distinctly comforting object-lesson in the possibility of thus meeting the steady diminution of ordinary fuel, especially comforting in view of the growing opinion of electrical and hydraulic experts that the water now running to waste in the United States can eventually be made to furnish electrical light, heat and power to the entire country. "In the Italian cotton trade," said Consul Dunning more than a year ago in a report from Milan, "the fuel problem, which is rapidly advancing to a serious stage throughout Europe, is rendered scarcely of moment through the rapid development of electrical energy generated by water-power in the not far distant hills. All the newer cotton mills are run electrically, and many of the older ones are to be re-equipped with the same system to take the place of their steam plants. The outlook of the Milan cotton manufacturer is not clouded by any doubt of his ability to compete with the mills of other countries on the score of power cost."

In Northern Italy practically all the cities and towns and a good many of the villages are supplied with electric light generated by water-power, and the use of electric power in other ways is steadily increasing. In the important manufacturing towns the use of hydro-electricity has become practically universal, and this in many cases as the result of solving an engineering problem that must needs allow the water supply to continue directly beneficial to its immediate neighborhood for irrigation and other purposes. These power developments are from high head streams, such, for example, as the utilization in this country of the Puyallup river, which drains the glaciers of Mt. Ranier, and so makes them supply the electrical energy of Seattle and Tacoma. They

illustrate, therefore, the latent possibilities of our own countless mountain torrents now that it is becoming more and more possible to transmit the current they may be made to generate over a much greater distance than has been necessary in the utilization of these Northern Italian sources.

To be independent or partly independent of wood and coal is in these days not only money in the bank, but a weight off the mind of any thoughtful manufacturing community. Twenty years ago such independence would have seemed altogether out of the question, except for the discovery of a new kind of fuel which would hardly have been looked for in anything so inimical to fire as water. But the uses of electricity practically establish a paradox, for with a current generated by running water one may heat a house or cook a dinner. The fact that at least 50 American cities already derive their electricity wholly or in part from more or less distant water-powers is the more significant when one realizes that in Italy this very recent utilization of a hitherto unused natural resource is becoming the cornerstone of a new industrial structure and is taking its place as one of the main financial assets of the kingdom.

More than that, it indicates a notable vitality and progressiveness in a nation that we are rather apt to think of as living entirely on its traditions of vanished glory. We need waste no sympathy on the decadence of any nation, even if we hear little about its naval progress, that develops water-powers for its manufacturers and gives prizes to encourage the invention of new kinds of automobiles to increase the efficiency of its soil tillers.

INDUSTRIAL INFLUENCE.

[*Birmingham Age-Herald.*]

The establishment of a Harbison-Walker fire-brick plant is plainly a result of the coming to this district of the Steel Corporation. The link between the two is not discernible. It is not susceptible of proof. Nevertheless, if the Steel Corporation had not come here last fall the Harbison-Walker Company would not be seeking today a site for one of its great clay and shale-working plants. It is one of the great industrial enterprises of the country, its central seat being in the Pittsburgh district.

No one can measure the value to this district of the coming of the Steel Corporation, for its own great work will be supplemented in due time by a train of valuable plants. The Harbison-Walker plant is the forerunner of a long line of plants. At present only rich companies are building new plants, but the time will soon come when capital for new plants will become available on the basis of prosperity and activity. The Harbison-Walker concern has money enough of its own, but plant projectors are compelled, as a rule, to gain sufficient capital by rolling together lesser sums.

The proposed Harbison-Walker plant will lend courage to the wavering of this district, for it says as plainly as anything inanimate can say that this district is the true seat in the South of iron and steel plants and of all their allied industries. Fire-brick is one of the allies.

The Engineering Experiment Station of the University of Illinois, Urbana, Ill., has published in pamphlet form bulletin No. 22, covering "Tests of Cast-Iron and Reinforced Concrete Culvert Pipe," by Arthur N. Talbot, professor of municipal and sanitary engineering and in charge of theoretical and applied mechanics. The results of these tests will prove of interest and value to engineers and others having to do with work of this character. Copies of the bulletin will be sent upon request.

TEXTILES

[A complete record of new textile enterprises in the South will be found in the Construction Department.]

Correspondence relating to textile matters, especially to the cotton-mill interests of the South, and items of news about new mills or enlargements, special contracts for goods, market conditions, etc., are invited by the MANUFACTURERS' RECORD. We shall be glad to have such matters at all times, and also to have any general discussion relating to cotton matters.

Contract for 2000 Looms.

The Union-Buffalo Mills Co. of Union, S. C., has arranged to exchange 2000 old looms for new automatic looms, and contract for the new machinery has been awarded to the Draper Company of Hopedale, Mass. The awarding of this contract shows that the managements of Southern mills are on the alert to improve their equipments by installing the latest improved textile machinery. About 94,000 ring spindles and 2300 looms are operated on print cloth production by the Union-Buffalo Mills Co.

South Carolina Mill Men.

The Cotton Manufacturers' Association of South Carolina at its recent meeting unanimously re-elected Capt. Ellison A. Smyth of Greenville, president, and Leroy Springs, Lancaster, first vice-president; T. E. Moore, Wellford, second vice-president; C. K. Oliver, Columbia, third vice-president; J. A. Brock, Anderson, treasurer; Thomas I. Charles, Greenville, secretary, and J. D. Hammatt, Honea Path; W. E. Beattie, Greenville; A. B. Calvert, Spartanburg, and C. C. Twitty, Hartsville, executive committee.

St. Pauls Cotton Mill Co.

The St. Pauls (N. C.) Cotton Mill Co. will begin the construction of its mill building in July, and plans to install 5000 spindles for the manufacture of yarns. It has completed 13 operatives' cottages costing about \$4550 and a warehouse costing about \$1500. Some months ago the MANUFACTURERS' RECORD announced the formation of the company and its plans. A. R. McEachern is secretary-treasurer. R. C. Bibberstein of Charlotte, N. C., is architect-engineer in charge.

The Jewel Cotton Mills.

The Jewel Cotton Mills of Charlotte, N. C., has effected permanent organization, as reported in the MANUFACTURERS' RECORD of June 18, and will build a mill for an equipment of 12,000 spindles, but will install only 6000 spindles at first. The product will be 60s two-ply to 100s two-ply combed yarns for mercerizing purposes. Plans have not as yet been completed. T. J. Lillard is the company's secretary-treasurer.

The Caswell Cotton Mills.

The Caswell Cotton Mills, J. W. Black, vice-president and general manager, Kinston, N. C., has ordered the company's machinery to be shipped about September 1. This equipment will include 5400 spindles, etc., for manufacturing 20s and 24s hosiery yarns, as previously announced. Contracts have also been awarded for the power plant, and that will be installed during August or September.

The Ridgeview Cotton Mills.

The Ridgeview Cotton Mills of Newton, N. C., has completed the construction of its building and is planning to install the initial equipment of machinery, which will include 2500 spindles, for manufacturing yarns. Electricity will be used for the motive power. This plant will cost com-

plete about \$55,000. H. F. Smith is general manager.

Will Build 3000-Spindle Mill.

As reported by the MANUFACTURERS' RECORD last week, the Sargent Cotton Manufacturing Co. of Charlotte, N. C., is planning to build a mill of 3000 spindles for manufacturing 60s to 80s cotton yarns. Summer B. Sargent is secretary-treasurer of the company, which is capitalized at \$50,000.

Harriett Cotton Mills.

The recent report that the Harriett Cotton Mills of Henderson, N. C., will build another mill was not true. The company has completed its No. 2 mill building, designed for 12,000 spindles, but has not purchased the machinery nor decided when to do so.

Cotton Duck Wanted in Argentine.

F. Ulrich, Escritorio, B. Mitre 1091, Buenos Aires, Argentina, wants manufacturers to quote on cotton duck, about 1,000,000 yards annually. See Mr. Ulrich's letter under "Foreign Letters."

Textile Notes.

The Business Men's League of Galveston, Texas, proposes the organization of a company to establish a bagging mill.

Theodore Gerrish of York, Pa., is negotiating for the purchase of the Bellevue Cotton Mills, a 5000-spindle plant located at Newport, Tenn.

The Hope Mills (N. C.) Manufacturing Co. will discontinue its finishing department and install looms, as reported last week, but these changes involve no additions to present equipment at Hope Mills.

The Coosa River Spinning Co. of Childersburg, Ala., is reported to have awarded contract for the machinery for its 10,000-spindle plant previously detailed. This company's main building is one story high, 108x208 feet. It has also erected a 50x100-foot warehouse and a 35x38-foot power-house. Fred S. Hinds, 19 Milk street, Boston, Mass., is the company's architect-engineer.

Cotton Bagging for Cotton Bales.

A dispatch from Jackson, Miss., says that the Farmers' Union of the State has closed contracts with one of the largest cotton-bagging manufacturing concerns in the United States to furnish the union with sufficient bagging made of low-grade cotton to cover 2,000,000 bales of cotton next fall, and that this deal means a market for many thousand bales of low-grade cotton, a decidedly better bale and neater covering.

The Georgia & Florida Railway Co. is reported in a dispatch from Valdosta, Ga., to be making rapid progress on its new line. Grading has been finished between Valdosta and Nashville, Ga., and track-laying has begun. The rails are 80 pounds to the yard. It is expected that trains will run between the two points in about two months. Grading is also in progress upon other portions of the line.

The Kingtree (S. C.) Board of Trade has been reorganized with Messrs. H. E. Montgomery, president; W. T. Wilkins, vice-president; A. C. Hinds, secretary and treasurer; J. A. Kelley, W. H. Carr, Hugh McCutchen, G. Ollie Epps and L. W. Gililand, executive committee.

Dr. J. A. McLeay of Atlanta, Ga., and Mrs. McLeay are reported to have acquired control of the Charlotte, Monroe & Columbia Railroad, a line 18 miles long from McBee to Jefferson, S. C., and connecting with the Seaboard Air Line.

RAILROADS

[A complete record of all new railroad building in the South will be found in the Construction Department.]

POOR'S MANUAL, 1908.

Railroads of the United States Have 228,128 Miles of Line—Other Important Data.

Poor's Manual of Railroads for 1908 has been issued. It is the 41st annual number of this well-known standard publication. Although coming from the press two months earlier than last year and five months earlier than 1906, it is as complete as usual, covering the fiscal year ended June 30, 1907, and the calendar year ended December 31, 1907, yet in addition to this it presents information about the more important companies up to June 10, 1908. Considering the immense amount of statistics which has to be handled and compiled, the publishers have achieved quite an advancement in securing an earlier publication of the manual in the year for which it is dated. Besides, the edition includes a special feature in an enlarged industrial section that covers every prominent corporation in the United States from which a report could be obtained. This data, like that for the railroads, is up to date, and for the larger companies particularly is very full and complete, with comparisons.

The railroad figures show that the total steam railroad mileage of the United States on December 31, 1907, was 228,128 miles, an increase of 5362 miles during the year. The total assets of the railroads were \$18,558,881,437, which includes cost of railroads and equipment, \$13,364,273,191; stocks and bonds owned, \$2,884,031,173; real estate and other investments, \$738,843,199; cash, bills, etc., \$979,730,908, besides several other items. The total capital stock was \$7,458,126,783; bonded debt, \$8,228,245,257; other bond obligations, \$815,041,027; bills payable, etc., \$857,734,167; profit and loss, \$789,617,481, besides several other items.

The gross earnings of the railroads which reported earnings for 1907, and embracing 225,227 miles, amounted to \$2,602,757,503, an increase of \$256,117,217 during the year, or nearly 11 per cent. The net earnings were \$833,839,600, an increase of \$43,651,888, or about 5 1/2 per cent. In 1906 the increase in net earnings was more than 15 per cent. The railroads moved 1,722,210,281 tons of freight, and the tons of freight moved one mile were 233,137,507,807, the revenue per ton-mile being 0.782 cent, as compared with 0.766 cent in 1906. The passengers carried numbered 885,724,314, and the passenger mileage was 28,370,247,819 miles, the revenue per passenger being 2.040 cents, as compared with 2.011 cents in 1906. There were large increases in the number of passengers carried, the tons of freight moved, and also in the passenger mileage and in the freight mileage.

FAST ELECTRIC RAILWAY.

Grand Isle, Louisiana, to Be Made a Gulf Coast Resort.

The New Orleans & Seashore Air Line Railway Co., which was incorporated in Louisiana several months ago, has issued a prospectus describing and illustrating its proposed route from New Orleans to Grand Isle, La., on the Gulf of Mexico. It is to be an electric railway, and it is aimed to make the run of about 50 miles in 90 minutes. There will be little curvature, and the road will be practically level. On the island will be erected a large building which can be used as a casino and general entertainment hall as well as for a railway station. This will be placed above the highest known tidal flood level,

and the railway will also terminate at this elevation.

The line will start from a point on the south side of the Mississippi river, in Jefferson parish, running west to Amesville; thence south along the Bayou Des Familles about eight miles; thence to and across Bayou Barataria; thence along the east side of that bayou to Bayou Dupont, which will be crossed; thence to and across Bayou St. Denis and Grand Bayou; thence to Bayou L'Ourse, which will be paralleled to Grand Isle. A branch is also contemplated to and along Bayou LaFourche.

Grand Isle is described as an island nine miles long and from one to one-half miles wide, rising from six to ten feet above the water. The climate is temperate and attractive all the year round, the average temperature being 70 degrees. There is fine surf bathing, with no undertow. An excellent roadway traverses the island from end to end. There is plenty of game and fish.

The officers of the railroad company are James W. Porch, president; Arsene Perilliat, vice-president; Louis P. Rice, treasurer; John H. Menge, Jr., secretary, all of whom are directors, the other member of the board being Honore Dugas of Bayou LaFourche; the others are of New Orleans. J. W. Stephens is chief engineer. The offices are at 303 Cotton Exchange Building, New Orleans.

OPEN INTO ATLANTA.

Atkinson's Railway Co. Completes and Operates Its Line.

The opening of the Atlanta division of the Atlanta, Birmingham & Atlantic Railway was celebrated on June 19, according to program, by the running of a special train over the road under the auspices of the Atlanta Chamber of Commerce and the holding of a banquet at the new Kimball Hotel in the evening, which function, it is said, was attended by more than 900 guests. The special train (in addition to a committee of the Chamber of Commerce and officials of the railroad company) conveyed many prominent citizens from points along the line, including the mayors of several places.

When the train arrived at the union station at Atlanta it was greeted by cheers of thousands of spectators and the blowing of whistles all over the city, the coming of the cars being announced by an agreed signal from the locomotive whistle. Along the route followed by the train every point from which a good view of it could be obtained was filled by throngs of people, who cheered a welcome, and as it approached the station the crowds had to be driven off the track to permit its entrance. There were over 400 persons on board.

President H. M. Atkinson of the railroad company was the recipient of many congratulations and expressions of appreciation for his work in extending the railroad to Atlanta, and at the banquet in the evening he was the center of interest, as he had been during the day. The dinner was attended by practically every man of prominence in Atlanta, and many from other cities in the State, from the Governor of Georgia down. President A. G. Candler of the Chamber of Commerce presided, seated between President Atkinson and the Governor.

PORT ARTHUR TO HOUSTON.

Short Line Financed, Contracts Let and Work to Start Immediately.

C. S. Cleaver, vice-president and general manager of the Port Arthur & Houston Short Line Railroad Co., which proposes to build a line about 86 miles long between Port Arthur and Houston, Texas, via LaPorte, is reported as saying that construc-

tion will begin immediately, financial arrangements having been closed through Edward Skahan, president of the State Bank of Princeton, Minn., and D. H. Donovan of St. Louis, Mo., for the construction of the road, the latter taking the construction contract, which has been sublet in 10-mile sections to C. L. Dwyer of Houston, Texas, who will begin work at LaPorte, Texas. The company was organized two or three years ago, with a capital stock of \$200,000. Among others interested in it are A. O. Blackwell of LaPorte, who is secretary, and A. N. McKay of the same place. H. F. Best of Port Arthur, Texas, is also concerned.

Contractor Dwyer is quoted as saying that he will start grading at a point where the line will cross San Jacinto bay and work via LaPorte toward Houston. Winfrey & Schlafli of Houston will do the engineering work ahead of the graders under the chief engineer, Hans Falkenburg of Port Arthur. The Cullen-Friedstadt Company of Chicago will do the concrete work for the bridges. Mr. Cleaver is also reported as saying that every effort will be made to complete the line from Houston to the Goose Creek oil field as soon as possible to get the advantage of freight to and from that point.

The directors are to meet at Port Arthur to ratify the contracts which were entered into by authority of the board given at its last meeting.

BIG RAILROAD DOCKS.

Phosphate Rock and Coal to Be Handled—Extension Proposed.

Mr. L. M. Fouts, second vice-president and general manager of the Charlotte Harbor & Northern Railway, with office at Jacksonville, Fla., writes the MANUFACTURERS' RECORD that the company is preparing plans for extensive docks, phosphate machinery and storage bins for phosphate rock and coal at Boca Grande, Fla. These docks will also be arranged for handling merchandise, lumber, naval stores, etc.

The letter also says: "We have not yet commenced this work, but it will more than likely be well under way during this year. It is also expected that we will commence the building of the extension from Arcadia to Plant City, Fla., during the present year. The right of way has all been secured and cleared. The distance from Plant City to Arcadia is 60 miles."

Railway and Light Deal Closed.

The charter for the Southern Railway & Light Co. has been recorded at New Orleans, and it is stated that capitalists of that city will take over the Southern Light & Traction Co. of Natchez, Miss. The new company has a capital of \$456,700, and it will continue operating the system. The directors of the new company are Lynn H. Dinkins, Jonas H. Levy, G. P. Bullis, H. M. Youree and Silas L. Hyman. Henry M. Young, secretary of the Interstate Trust & Banking Co., is also secretary-treasurer of the new company.

A dispatch from Natchez says that under a decree of the court the property has been sold to Mr. Dinkins, who is president of the Interstate Trust & Banking Co., as well as of the railway and light company. The property consists of street railway, electric plant and gas plant.

Kentucky Midland Reported Sold.

The Kentucky Midland Railroad, a coal-carrying line from Central City to Madisonville, Ky., 22½ miles, is reported to have changed hands. A new company is said to have been incorporated, retaining the old name, but with the principal stockholders as follows: Frederick Bond of Chicago, George C. Wallace, C. E.

Jennings, J. C. Flournoy, Cecil Reed, W. R. Hendrick and R. V. Phillips, all of Paducah, Ky. Headquarters at Central City, Ky., but with branch offices at Chicago and Paducah. It is said that a passenger business will also be conducted.

The Kentucky Midland was built by G. B. Hengen of Chicago, Ill., and associates. He became president of the line, the other officers being A. T. Averill, first vice-president, Cedar Rapids, Iowa; H. D. Laughlin, second vice-president, Chicago, Ill.; W. D. Brereton, treasurer, Monmouth, Ill.; M. M. Wheeler, secretary and chief engineer, and F. C. Tatting, general manager, both at Central City, Ky.

The road was built in connection with coal-mine developments in which its projectors were interested.

Plans Will Be Fulfilled.

A report from Greensboro, N. C., says that M. L. Jones and E. D. Steele of High Point, N. C., and A. H. Hohl of New York have been appointed receivers for the Carolina Valley Railroad, which consists of two lines, one from Denton, N. C., to the Iola gold mine, and the other from Thomasville to High Point. They were appointed upon the application of W. T. Van Brunt. There are 21 miles of line. It is further said that E. D. Steele and A. H. Hohl were made receivers for the North Carolina Electric Co., which has one mile of line in High Point, besides franchises and rights of way between Greensboro and Thomasville.

According to a report from Thomasville, N. C., the receivership will not interfere with construction, but plans for an extension southward will be fulfilled.

St. Louis to Mobile.

The New Orleans, Mobile & Chicago Railway Co., which is to be the new name of the Mobile, Jackson & Kansas City Railroad, will, according to a report from Mobile, Ala., have a connection from Midleton, Tenn., to St. Louis, Mo. This, it is said, will be in the shape of a new railroad which may be built by St. Louis and New York capital, and E. W. Judd of New York has visited Mobile for the purpose of securing information to guide those who are interested in the plan. The Mobile, Jackson & Kansas City Railroad and the Chicago & Gulf, which it controls, will, it is said, be consolidated within two months under the new name above stated.

As heretofore noted, an extension from Ovett, Miss., to New Orleans is also to be built.

B. & O. Sells \$7,000,000 of Bonds.

The Baltimore & Ohio Railroad Co. has sold about \$7,000,000 of bonds to Alexander Brown & Sons, bankers, of Baltimore, but it is stated the company contemplates no immediate use of the money, although it has plans for improvements which may be taken up when the general business situation improves. The securities sold consist of \$2,072,000 Baltimore & Ohio prior lien 3½ per cent. bonds, \$4,025,000 Baltimore & Ohio first mortgage 4 per cent. bonds, \$1,513,000 Baltimore & Ohio Southwestern addition 3½ per cent. bonds. The Guarantee Trust Co. of New York is interested with Alexander Brown & Sons in the deal.

No Railroad Town at Present.

Concerning the press report that the Texas & Pacific Railway would make extensive improvements, including a new yard, at Baton Rouge Junction, La., and would establish a new town to be called Addis with the expenditure of \$500,000 for shops, roundhouses, office buildings, etc., an officer writes the MANUFACTURERS' RECORD thus: "I don't know where

Addis is. Am sure the Texas Pacific will not spend any such sum at any place in the next 24 months."

Extension Not Decided.

Mr. Morgan Jones, chairman of the Continental Bank & Trust Co., Fort Worth, Texas, and also president of the Abilene & Northern Railway, writes the MANUFACTURERS' RECORD thus: "The extension of this line is as yet not fully decided on. We are making surveys to find out the cost and how low grade a route can be obtained, and it may be some time before the matter will be settled."

Through Clinch Mountain.

The Carolina, Clinchfield & Ohio Railway Co. is reported to have completed the tunnel through Clinch mountain at Speers Ferry, Va. It is about three-quarters of a mile long, and was bored by the S. Walton Contracting Co. of Virginia. Grading is being pushed, and it is expected that considerable track will be laid on the northern extension before the end of this year.

Chattanooga's New Terminal.

The new passenger terminal station at Chattanooga, Tenn., which will be used by the Southern Railway and the Queen & Crescent Route, has, according to a report from that city, been accepted from the contractors, Wells Bros., and the track equipment will now be constructed, so that the new station can be opened early in the fall.

New Equipment.

The International & Great Northern Railroad Co., Palestine, Texas, will, it is reported, let contracts for 300 new freight cars and 15 locomotives. Thomas J. Freeman of Houston, Texas, is receiver, with office in the Paul Building in that city.

Railroad Notes.

The Illinois Central Railroad is obtaining excellent ballast in the way of pebbles which are being dredged from bars in the Mississippi river, and this material is being used for reballasting the line between Memphis, Tenn., and Vicksburg, Miss.

A dispatch from Mt. Sterling, Ky., says J. F. Allen of Cincinnati has closed an agreement with business men at Mt. Sterling to incorporate and build the Mt. Sterling, Columbia & Scottsville Railroad, 150 miles long; capital \$2,000,000; principal office in Mt. Sterling.

The Texas Railroad Commission has approved \$1,108,000 of first mortgage bonds issued by the Galveston Terminal Railway Co. on completed road, equipment and buildings. This is the first issue out of the total of \$5,000,000. The company was also authorized to issue \$25,000 of stock.

Samuel O. Bell of DeKalb, Miss., and others are reported to be organizing and will soon incorporate the Snooty Valley Railroad Co. to build a line about 12 miles long from Sucarnochee, on the Mobile & Ohio Railroad, to DeKalb. Mr. Bell is chancery clerk of Kemper county, and DeKalb is the county-seat. Subscriptions to stock in the new company are being made.

The Illinois Central Railroad Co., it is reported, contemplates securing another tidewater outlet on the Gulf coast through the Gulfport & Northwestern Railway, which the Edward Hines Lumber Co. of Chicago proposes to build. Connection can be made by building a line between Covington, La., the eastern terminal of the Baton Rouge, Hammond & Eastern Railroad and Poplarville, Miss. There is no confirmation of this report.

MECHANICAL

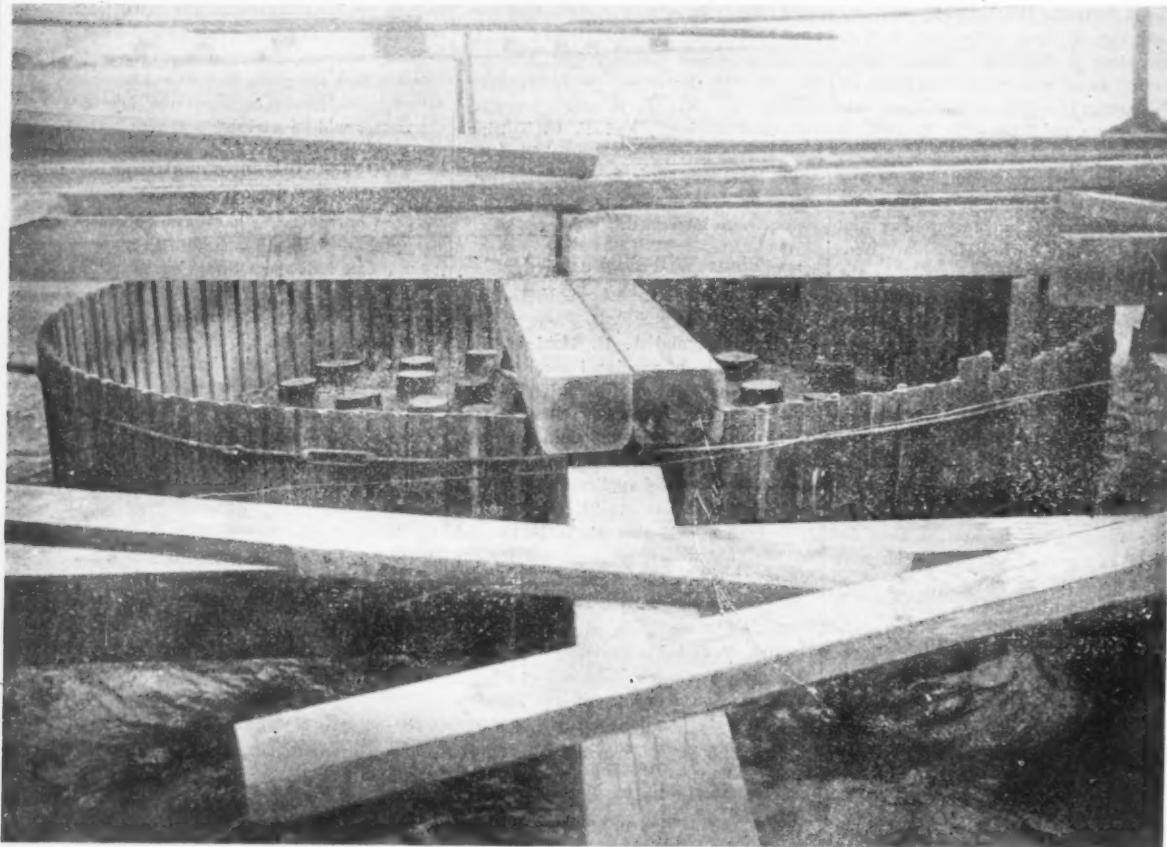
A Steel Piling Circular Pier Shell.

The Baltimore, Chesapeake & Atlantic Railway Co. has recently been engaged in reconstructing bridge No. 75 across Sine-puxent bay at Ocean City, Md.

The channel is covered by a plate girder

made of a line of six-inch 11-pound United States steel sheet piling 25 feet long. The top of the piling projects four feet above mean low water, and is driven approximately seven feet into the sand-bearing strata below. The purpose of the use of this piling was to form a shell for the concrete during its placing, and to protect

This made a perfect cofferdam, and the work has been entirely satisfactory. The photograph shows the round bearing piles and the steel shell completed ready for installation of concrete. It is of interest to note that the Carnegie Steel Co. of Pittsburgh, Pa., manufactures the United States sheet steel piling.



STEEL PILING CIRCULAR PIER SHELL.

swing bridge 100 feet face to face of back walls. The rest piers are 21 feet long by 6 feet wide, rounded off at each end to a radius of three feet, making piers oblong in shape. The center pier, on which the swing bridge rests, is 18 feet 4 inches outside diameter. At this point the water in the bay is about 10 feet deep, and its bed is composed of about four feet of mud, with fine sand beneath. In order to pro-

the bottom of the pier against the scouring action of waves and tide. One hundred and sixteen pieces of six-inch piling, weighing 11 pounds per foot, or 16 tons in all, were sufficient to make a perfect circle, the looseness of the material in the interlock enabling it to follow the curve without any special shop bending.

The piles were driven from a 30-foot derrick carried by a scow; a 2000-pound



GILBRETH FOUNTAIN TROWEL IN USE.

vide proper bearing for the swing span, 57 round bearing piles 12 inches in diameter were driven into the sand strata, with their tops approximately two feet below the bearing plates of the bridge. They will be capped with two feet of concrete, making a monolith structure.

The novelty in the construction of this pier consists in the fact that the shell of the pier, 18 feet 4 inches in diameter, is

drop hammer was used with a fall of 24 to 48 inches; the piling was driven in about seven minutes per pile without any driving caps and without any walling timbers. In order to make it water-tight the usual wooden packing strips were employed, and after the circle had been completed the staves, if they may so be called, were drawn up tight by rods and turnbuckles.

scaffold, which is so arranged that the workman does not have to stoop at all; the Gilbreth packet system, by means of which the workman has right at his hand his brick arranged in convenient form for a ready placing of position in the wall, and the Gilbreth fountain trowel, which handles mortar in a large quantity and enables the workman to accomplish better and more rapid results. The packet system consists of a wooden frame or tray, so constructed as to allow the bricklayer to place his fingers underneath the brick while it is resting on edge, the brick being piled on edge in two rows of 10 bricks each. This work, as well as the selection of the brick, is done by the laborers at the pile or carts, who put the best brick on the same packet and the inferior ones on others, and they remain undisturbed until they reach the bricklayer. In this way the bricklayer's time, which is costly, is not taken up with this work, and he is allowed to proceed more rapidly, as the kind of brick he wants is always ready. The fountain trowel, shown in one of the illustrations, is a metal can, the heel being used to scoop up the mortar, while the toe has a long opening the entire width of the can, through which the mortar is poured upon the brick. This device makes it possible to spread a greater quantity of mortar within a given time and permits the mortar being used sufficiently soft to fill the joints better. In another illustration the bricklayer can be seen at work on a section of a wall, with the packet resting on the wall, while behind him is the scaffold on which are other packets ready for use, and the fountain trowel. The results of these improvements will no doubt be followed with interest and, if a practical success, will prove of great assistance to the contractor as well as to the bricklayer.

Hele-Shaw Friction Clutch.

The Merchant & Evans Company, 517 Arch street, Philadelphia, Pa., has acquired the United States patent rights of the Hele-Shaw friction clutch, and will manufacture it. The clutch departs from the simple flat disc type of friction, and has for its distinguishing feature a 35-degree "V"-shaped circumferential groove in which the discs engage and in which the special merit of this type of clutch is



BRICKLAYER AT WORK WITH GILBRETH IMPROVEMENTS.

benefit of the bricklayer particularly, enabling him to turn out more work with less labor on his part, and in this way to be of material assistance to the general contractor in getting his contracts completed more rapidly. This has been accomplished principally by the elimination of much unnecessary movement and a consequent shortening of time. These ideas received practical shape in the Gilbreth

claimed to lie. The general construction is not unusual, and consists of a number of friction discs enclosed in an oil-tight drum, the contact and engagement of the discs for the transmission of motion being controlled by the ordinary appliances for throwing pressure on and off. One advantage claimed as the result of this friction groove is an increase of friction surface for the same diameter of disc with a ratio

of superiority over the flat plate of 3.1 for the same diameter disc, both in the matter of pressure applied or power transmitted. It is also stated that with a complete engagement of the discs there still remains a clearance between the plates of about one-eighth inch, which permits of the very free circulation of the oil in which the discs are immersed and brings the oil into close contact with the friction surfaces and thus establishes a maximum radiation of the heat generated. Besides this, the grooved

of maintenance inherent with this type of prime mover, many are inclined to think that an excessive amount of auxiliary apparatus is required. An examination of the two accompanying illustrations, showing the interior of the Nashua (N. H.) Manufacturing Co.'s power plant, will convince the observer of the simplicity of a properly-installed turbine plant.

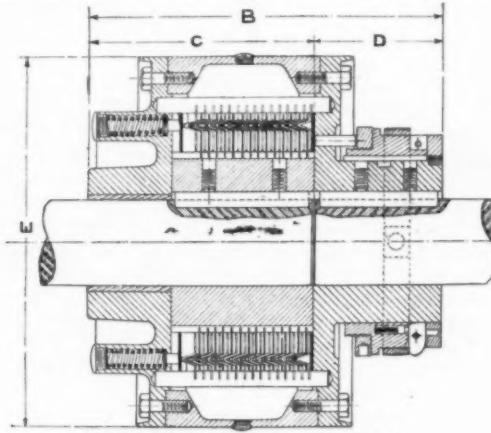
Two 500-kilowatt 600-volt three-phase Curtis steam turbines, one motor-generator set, one steam turbine generator set and a

to install Curtis turbines was made after thoroughly canvassing the prime mover field. The initial installation, consisting of one 500-kilowatt unit, gave such satisfactory operation that two years later a similar unit was installed to meet the increasing demand for power. Space has been left for a third unit should future increase of businesses warrant its installation.

The first unit, after being in continuous service some 30 months, 10 hours per day, was taken apart and examined, and it is

being milled on the one end of this inner shaft, any movement given to same rotates the aforesaid pinion inside the hub, drawing the spokes in or forcing them out, according to the direction of motion given to the hand wheel, which operates both of these inner shafts simultaneously.

The following distinctive claims are made: Ability to transmit any amount of power and vary the speed at a ratio of approximately 4-1 with little more waste than would be found in two ordinary shafts running together in parallel. Ex-



HELE-SHAW CLUTCH COUPLING.

form of the plate gives it greater strength to resist buckling, whatever might be the cause. For these reasons this clutch is offered as particularly fitted for continuous and heavy duty and for application to machine-tool work as well as automobile or other service. Speed diagrams for this clutch show a very uniform picking up under load, and the curve is practically a straight line.

The inner discs of the clutch are made of mild steel and the outer discs of phosphor-bronze. Various driving problems re-

small circulating pump for the oiling system constitute the only moving apparatus in the station. The condensers, of the Manning-Bulkley type, are located outside of the building, where a sufficient head of water is provided for syphoning. No trouble is experienced in maintaining a vacuum of 28 to 29 inches, and as a consequence the only pump in the entire installation is the one furnishing oil to the bearings.

The excitation for the 500-kilowatt units is provided at starting by the 25-kilowatt Curtis turbine generator set. This set also furnishes power for operating the watchman's lights throughout the factory and for lighting the boiler and engine room. Continuous excitation is

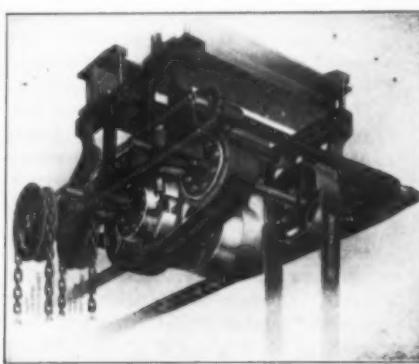
stated the condition in which the steel buckets and the entire interior of the turbine was found refutes the popular belief that steam at high pressure with more or less entrained water acts as a corrosive agent on the turbine buckets.

S. & S. Variable-Speed Countershaft.

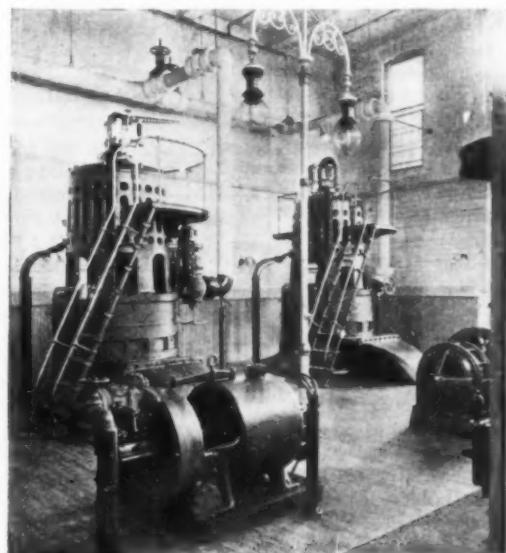
An accompanying illustration shows an ingenious device which is being manufactured by the Rotary File & Machine Co., 589 Kent avenue, Brooklyn, N. Y.

It is the S. & S. variable-speed countershaft, which consists of an arrangement of expanding belt-operating pulleys by means

of which any variable-speed relationship desired within the limits of 4-1 can be maintained at its maximum and capable of ready adjustment at a moment's notice. The gear is made in 14 standard sizes, capable of transmitting up to 128 horsepower. The variation in the diameter of the expansion pulley is effected in the following way: The spokes slide in machined slots inside a cast-iron hub. Part of each spoke inside the boss has teeth milled on one edge, and all are in mesh with a broad pinion. This pinion is operated by an inner shaft, which is only capable of longitudinal movement, but owing to grooves



CURTIS TURBINES IN POWER PLANT.



CURTIS TURBINES IN POWER PLANT.

HELE-SHAW CLUTCH PULLEY.

quire different solutions, however, and in some instances the toothed plates also are of steel, with intermediate slipper plates of bronze. The toothed plates are so constructed to engage with the driving and driven drums. Herewith are two sectional views of the Hele-Shaw clutch.

Curtis Turbines in Power Plant.

The increasing use of steam turbines in industrial plants is a striking testimony to their many good qualities. While admitting the advantage of high efficiency, compactness, simplicity and the low cost

furnished throughout the day by the 35-kilowatt induction motor-generator set.

The switchboard consists of generator, exciter and feeder panels of blue Vermont marble, and is furnished with the necessary meters and apparatus for controlling the generators, exciters and feeder circuits.

The Nashua Manufacturing Co. manufactures cotton goods and uses the group system of electric drive, the motors being of the induction type built by the General Electric Co. of Schenectady, N. Y. Besides furnishing current for the motors, the turbines also supply current for lighting the mill. The decision of the company

of which any variable-speed relationship desired within the limits of 4-1 can be maintained at its maximum and capable of ready adjustment at a moment's notice.

The gear is made in 14 standard sizes, capable of transmitting up to 128 horsepower. The variation in the diameter of the expansion pulley is effected in the following way: The spokes slide in machined slots inside a cast-iron hub. Part of each spoke inside the boss has teeth milled on one edge, and all are in mesh with a broad pinion. This pinion is operated by an inner shaft, which is only capable of longitudinal movement, but owing to grooves

tended for floor positions and the heavier-sized machines, Nos. 8 to 14, are ring oiling. Every part of the device is designed to be sufficiently substantial to withstand abnormal strains; gear is perfectly adjustable, and is built like a machine tool under practical and careful supervision, and of the best possible class of material obtainable. Each size takes up the minimum amount of space consistent with the amount of power handled by each; also they are most convenient of operation, as the hand wheel may be placed in the position most suitable for operator's requirements. This form of gear can also be operated with equal facility, whether in operation or stationary.

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LUMBER

[A complete record of new mills and building operations in the South will be found in the Construction Department.]

The Memphis Market.

[Special Cor. Manufacturers' Record.]

Memphis, Tenn., June 20.

Considerable hardwood lumber is moving from this great center, but it is moving mainly in small lots. The trade is a little below normal. Prices rule firm on a majority of the woods sold here. There is increased activity in cypress, quartered oak and poplar. The lower grades of gum and the better grades of cottonwood are rather sluggish. The box business is moderately good, a number of large contracts having been closed with box factories here during the last 10 days. To safeguard prices, more than for any other reason, the mills in Memphis and vicinity during the next 30 days will reduce their output again. This was planned early in the spring and carried out to some extent, the untoward conditions in the export trade making the policy a desirable one for the second time this year. Building in Memphis is picking up right along, and shipments of building material to other cities is picking up somewhat. There is also a better demand for dimension stock and heavy materials.

The veneer mills here are having an improved business, and the trade in hardwood flooring is healthy. The demand for flooring has been fair indeed from the Western country.

At present most of the slack cooperage plants are running, and a good demand is reported for both No. 1 and No. 2 staves. The elm hoop trade is active, with log supplies quite moderate. The rainy season and dull business conditions united to retard logging during the early part of the year.

Texas-Louisiana Lumbermen.

At a meeting last week of the Texas-Louisiana Sawmill Association at Shreveport, La., much attention was given to the discussion of freight rates, with a view to readjusting them so as to make the rates west of the Mississippi river no greater than those on the east. The meeting was presided over by Benjamin S. Woodhead of Beaumont, Texas, with Secretary Oscar S. Tam of Houston, Texas, keeping the minutes. Ex-Governor Blanchard of Louisiana made an address, in which he spoke particularly of the importance of checking the destruction of the country's natural resources and of equalizing assessment rates on timber lands. Members of the association discussed "Lumber Freight Rates," "Inequalities of Freight Rates," "Discrimination Against Lumbermen" and "Cost of Production," the keynote of the discussion being that the mill men should cooperate at once and have the alleged conditions modified, resolutions being passed to this effect. The next meeting of the association will be held at Alexandria, La., at some time to be determined.

Fernandina's Shipments.

Among the vessels which have recently cleared or are loading lumber at Fernandina, Fla., are the schooner Thomas F. Pollard, loading a cargo of yellow pine for the Hirsh Lumber Co.; schooner Forest City, loading ties for J. R. Hill; schooner Louis Bossert cleared with a cargo of 485,000 feet of yellow-pine lumber for New York; schooner George A. McFadden cleared with a cargo of 674,000 feet of yellow-pine lumber for New York; British bark Conductor cleared with a cargo of yellow-pine lumber for Las Palmas, N. B. Borden & Co., shippers; British schooner Irma Bentley cleared

with a cargo of yellow-pine lumber for St. Tolin, N. B., George F. Craige & Co., shippers.

Arkansas Lumber Dealers.

Preparations are being made by the Board of Trade of Little Rock, Ark., for the meeting of the Arkansas Association of Lumber Dealers, which will be held in that city on July 7 and 8. Among others, it is expected that Mayor W. R. Duley of Little Rock, Governor X. O. Pindall of Arkansas, Secretary Harry A. Gorsuch of the Southwestern Association of Lumber Dealers, and Nels Darling of Oklahoma City, Okla., will make addresses. Officers of the association include L. A. Buckner, Dermott, president; G. R. Kirkpatrick, Imboden, vice-president, and C. M. Dickinson, Paragould, secretary.

Pascagoula's Statistics.

Figures compiled by the Pascagoula Commercial Club of Pascagoula, Miss., for the calendar year ended December 31, 1907, show that 234,893,267 superficial feet of lumber were manufactured for foreign and domestic shipment, valued at \$4,677,864. With miscellaneous commodities the grand total of exports and imports was valued at \$8,941,119, an increase over the previous year of \$916,905. Vessels clearing for foreign and coastwise ports during the year numbered 375, with an aggregate tonnage of 297,845.

Business Becoming Active.

Reports from Macon, Ga., state that, after a period of nearly nine months of inactivity, lumber shipments began last week with indications that business will be steady for the remainder of the year. An increase in the amount of work done at a number of Macon mills is reported, which increase is accredited to the demand for building material, both in Macon and neighboring counties. Lumber prices have been comparatively low for several months, but it is not believed there will be any immediate increase.

Turpentine Plant Completed.

Messrs. J. K. Secoe, A. M. Cheshire and J. E. Lockwood, representing a large reduction plant at Toledo, Ohio, are reported from Mobile, Ala., as having investigated timber forests in Louisiana, Florida and Alabama, with a view to ascertaining the extent of material available for the production of turpentine and rosin from pine stumps and lightwood. It is stated that the company at Toledo desires to establish a reduction plant at some point in the South.

Big Plant Completed.

Announcement is made that the Interstate Lumber Co., J. G. Curtis, Erie, Pa., president, has completed and put in operation its large sawmill at Columbus, Miss. The plant has a daily capacity of 125,000 feet of lumber, and includes a gang-saw mill, band-saw mill, commissary, hotel, office buildings, etc.

A Proposed Box Factory.

N. P. O'Neal and associates of Gurdon, Ark., are planning the formation of a company to establish a box factory and want to interest an experienced manufacturer who will invest and manage the plant.

Lumber Notes.

The National Lumber Manufacturers' Association held its annual convention at Minneapolis, Minn., last week.

Reports from 28,850 lumber establishments to the Census Bureau indicate that 47,256,154,000 feet of lumber were cut in 1907, according to a preliminary report in Washington.

Records show that over 8,000,000 staves manufactured at Barlake, La., and transported by barge to Orange, Texas, have been shipped from the latter port during the past spring.

The building inspector of Norfolk, Va., issued permits during May for 84 structures, valued at \$206,541. Of the total, 56 were for dwellings, 31 of which are frame and 25 brick.

MINING

Phosphate Rock in 1907.

The production of phosphate rock in the United States in 1907 amounted, according to the United States Geological Survey, to 2,265,343 long tons, valued at \$10,653,558, an increase over the production of 1906 of 184,386 long tons in quantity and of 2,074,121 in value. The average price per ton in 1907—\$4.70—was 58 cents greater than in 1906, an increase of 14 per cent.

The above figures are based on the marketed product. The actual quantity of phosphate rock mined in Florida for the year 1907 was 1,386,578 long tons, in South Carolina it was 262,198 long tons, and in Tennessee 707,710 long tons—a total of 2,356,486 long tons. The production from Florida was greater than in any previous year of the history of its phosphate industry, the output being more than 4 per cent. above that of 1906. The increase was, however, entirely in the hard-rock variety; the production of land pebble decreased 420 tons, and that of river pebble 5278 tons. The average price of Florida phosphate for 1907 was \$4.85 per ton, as compared with \$4.28 in 1906, a gain of 13.3 per cent. Nearly 60 per cent. of the entire phosphate production of the United States during the year was furnished by Florida.

South Carolina and Tennessee also showed large increases in the production of phosphate rock during the year, South Carolina furnishing 11.4 per cent. of the production of the country and Tennessee 28.2 per cent. Over 93 per cent. of the total Tennessee output was of the brown variety.

Sulphur.

In the nine months ended with last March 271,921 long tons of sulphur were exported from the Sicilian mines, an increase over the same period last year of 14,316 tons. Commenting upon these figures furnished by United States Consul Arthur S. Cheney of Messina, the daily consular and trade reports say that owing to the development of the Louisiana sulphur deposits the imports of sulphur into the United States have been decreasing. The receipts in 1905 were 83,201 tons, worth \$1,522,005; in 1906, 72,404 tons, worth \$1,282,873, and in 1907, 20,299 tons, worth \$365,739. American exports of sulphur have in the meantime increased from nothing in 1905 to 14,437 tons, valued at \$289,474, in 1906, and to 35,925 tons, valued at \$734,749, in 1907.

Chesapeake & Ohio Shipments.

A statement of coal shipments over the Chesapeake & Ohio Railroad during April shows a total of 599,603 tons, of which 389,761 tons were shipped from the New River field, 185,115 tons from the Kanawha fields and the remainder from Kentucky and connections. For a period of 10 months ended April 30, 1908, total shipments amounted to 8,957,603 tons, as compared with a total of 8,111,076 tons shipped during the corresponding period last year. Coke shipments during April, 1908, amounted to 21,464 tons, as compared with shipments of 45,647 tons during April, 1907, and for the 10 months ended April 30, 1908, to 205,513 tons, as

compared with shipments of 371,974 tons for the corresponding period in 1907.

Mine Inspectors' Institute.

At a meeting of mine inspectors of the United States at Indianapolis, Ind., last week the Mine Inspectors' Institute of America was organized with George Harrison of Ohio, president; Thomas Moses of Illinois, vice-president; Thomas Hudson of Illinois, treasurer, and James W. Paul of West Virginia, secretary. The purpose of the organization is to have an annual meeting of the mine inspectors of the country to discuss means for the prevention of mine accidents and fatalities.

Texas Fuller's Earth.

J. C. Melcher, postmaster of O'Quinn, Texas, writes to the MANUFACTURERS' RECORD that large deposits of fuller's earth have been found in that section. He says that the bed is 16 feet thick and underlaid by 6 to 12 feet of lignite. It is reported that no effort has yet been made to develop the property.

PHOSPHATES

Chickamauga Fertilizer Works.

Referring to the Chickamauga Fertilizer Works of Atlanta, Ga., which was recently incorporated with a capital stock of \$120,000, the MANUFACTURERS' RECORD is informed that the company was incorporated to operate the fertilizer factory at East Chattanooga, Tenn., formerly owned by A. D. Adair of Atlanta and McCarthy Bros. The plant was erected and equipped in 1901 at a cost of \$120,000, and has a capacity of from 20,000 to 25,000 tons of fertilizer annually. Formal organization of the Chickamauga Fertilizer Works has not been effected as yet, but it is understood that its officers will be as follows: President, A. D. Adair, Sr.; vice-president, G. W. McCarty; secretary and treasurer, J. D. McCarty.

Industrial Pittsburg.

A feature of an artistic booklet in two colors issued by the Union Trust Co. of Pittsburgh and entitled "Industrial Pittsburg" is a series of twin pictures illustrating 20 of the leading industries of the city and the ultimate of their products. These illustrations emphasize the statements made in the text that Pittsburg occupies the front rank in the world's production of iron and steel, tinplate, iron and steel pipe, steel cars, airbrakes, electrical machinery, coal and coke, fire-brick, plate glass, window glass, tumblers, tableware, cork, condiments, sheet metal and white lead; that, according to the latest census figures, its 3029 manufacturing establishments, with an aggregate capital of \$641,000,000 and 250,000 employees on an annual payroll of \$350,000,000, turn out products to the value of \$551,000,000; that the tonnage of Pittsburg in 1906 was 113,000,000 net tons, which is greater than the combined tonnage of New York, London, Liverpool, Hamburg and Antwerp, and that, with 179 banks and trust companies, it ranks second among the cities of the United States in banking capital and surplus. The elaboration of these striking statements is calculated to make the energetic and ambitious wish to get into the go of Pittsburg, and suggests that if elements within a city of such notable achievements find it profitable to make the city's opportunities widely known, smaller cities with opportunities still undeveloped will find it not amiss to follow such suit of publicity.

The Board of Public Works of West Virginia has assessed for 1908 the public utilities of the State at \$252,573,472, an increase over 1907 of \$10,465,167.

Construction Department

TO OUR READERS!

In order to understand and follow up properly the Construction Department items, please bear in mind the following statements:

EXPLANATORY

The MANUFACTURERS' RECORD seeks to verify every item reported in its Construction Department by a full investigation and complete correspondence with everyone interested. But it is often impossible to do this before the item must be printed, or else lose its value as news. In such cases the statements are always made as "rumored" or "reported," and not as positive items of news. If our readers will note these points they will see the necessity of the discrimination, and they will avoid accepting as a certainty matters that we explicitly state are "reports" or "rumors" only. We are always glad to have our attention called to any errors that may occur.

In correspondence relating to matters reported in this paper, it will be of advantage to all concerned if it is stated that the information was gained from the MANUFACTURERS' RECORD.

ADDRESS FULLY

To insure prompt delivery of communications about items reported in these columns, the name of one or more incorporators of a newly incorporated enterprise should be shown on the letter addressed to that town, or to the town of the individual sought, as may be shown in the item, as sometimes a communication merely addressed in the corporate or official name of a newly established company or enterprise cannot be delivered by the postmaster. This will help to insure prompt delivery of your communication, although it is inevitable that some failures on the part of the postal authorities to deliver mail to new concerns will occur.

WRITE DIRECTLY

It is suggested to advertisers and readers that in communicating with individuals and firms reported in these columns, a letter written specifically about the matter reported is likely to receive quicker and surer attention than a mere circular.

BRIDGES, CULVERTS, VIADUCTS

Altus, Okla.—Edward Kennedy, Houston, Texas, is interested, it is reported, in erection of bridge, 1850 feet long, over Salt fork near Altus.

Columbus, Ga.—City Engineer is preparing preliminary plans for 700-foot concrete bridge across Chattahoochee river at Dillingham street; T. L. Gruard, chairman bridge committee. (Recently mentioned.)

Coyle, Okla.—Logan and Payne counties will construct jointly steel bridge across Cimarron river near Coyle at probable cost of \$75,000. Address County Commissioners of Logan county at Guthrie, Okla., or of Payne county at Stillwater, Okla.

Dallas, Texas.—Jack Wilt, County Engineer, has estimated that cost of repairing bridges damaged by flood will aggregate \$15,276.

San Antonio, Texas.—D. K. Colburn, bridge engineer Galveston, Harrisburg & San Antonio Railway, Houston, Texas, will receive proposals until July 1 for construction of subway on Nolan street, San Antonio, and storm-water sewers in connection. (See "Machinery Wanted.")

Spartanburg, S. C.—Spartanburg County Commissioners will open bids July 2 for construction of steel bridge over Lawson's fork, consisting of one 65-foot span and 31 feet of approach, and for repairing stone piers; plans on file at office of W. Frank West, Supervisor, Spartanburg, S. C. (See "Machinery Wanted.")

Williamsport, Md.—Washington & Berkeley Bridge Co., Edward W. Byron, president and secretary, has instructed Mason D. Pratt, engineer, Harrisburg, Pa., to draw new plans for bridge across Potomac river; piers to be of concrete; superstructure of steel; floor of vitrified brick or concrete; length about 1570 feet; cost between \$65,000 and \$75,000; new bids will be advertised for. Mr. Pratt expects to have plans ready and bids submitted by August. (Previously mentioned.)

CANNING AND PACKING PLANTS

Albertville, Ala.—Albertville Canning Co. will establish cannery recently noted; will

erect building 50x75 feet at cost of \$500; cost of machinery, \$750; daily capacity, about 10,000 cans, fruit and vegetables; president, L. B. Liles; manager, J. V. Liles.

Cleveland, Tenn.—Cleveland Co-operative Canning Co., recently reported incorporated, will establish plant with daily capacity of 30,000 cans; will erect brick and frame building to cost \$5000; cost of machinery (purchased), \$2500; president, W. B. Shields; secretary-treasurer, W. O. Haggard.

Cleveland, Tenn.—Cleveland Co-operative Canning Co. incorporated with \$15,000 capital stock by E. S. Petty, W. O. Haggard, J. I. Harrison and others.

Corpus Christi, Texas.—Stacy Packing Co., Rockport, Texas, will establish mullet picking plant at Corpus Christi.

East Prairie, Mo.—The Canning Co. incorporated with \$10,000 capital stock by W. H. Smith, A. J. Ryker, R. A. Doyle and others.

Marietta, Ga.—Judge Gober will establish cannery.

Marietta, Ga.—E. P. Dobbs will establish cannery with capacity of 18,000 cans per day.

Mifflin, Ala.—Mifflin Fish & Ice Co. incorporated with \$50,000 capital stock by John T. Johnson, Mifflin, John Walker and J. L. Crouch of Magnolia, Ala., and others; to can fish and vegetables.

Rush Springs, Okla.—Rush Springs Canning Co. incorporated with \$10,000 capital stock by T. J. Padgett, N. J. Penn and R. Dunn.

Sedalia, S. C.—J. E. Minter will establish cannery.

Temple, Texas.—Hemman-Bessonette Company, recently reported to erect cold-storage plant, will also establish creamery and cannery; will install gas-producing engine for power. (See "Machinery Wanted.")

Tipton, Mo.—The Canning & Preserving Co. incorporated by Jacob Hiner, Jr., Joe L. Springer and P. J. Weier.

Tishomingo, Okla.—Nick Wolfe is president of company organized with \$10,000 capital stock to establish cannery.

CLAYWORKING PLANTS

Birmingham, Ala.—Habison-Walker Refractories Co., Pittsburgh, Pa., is reported as to build \$250,000 plant in Birmingham district for manufacturing fire brick and other refractory materials, but telegraphs the Manufacturers' Record that nothing definite can be stated now.

Boiton, Ga.—C. H. Carter will not establish brick plant. (Recently incorrectly noted.)

Brownwood, Texas.—Brownwood Brick & Tile Co. incorporated with \$25,000 capital stock by J. D. Fay, Brooke Smith and H. W. McGehee.

Columbia, S. C.—F. H. Hyatt will organize company and establish plant for manufacture of vitrified brick.

Quinton, Okla.—J. B. Green will establish brick and tile factory.

Rich Hill, Mo.—Rich Hill Brick & Tile Co. will build three kilns and dryroom, doubling present output of plant.

Shelby, Mo.—Brick & Tile Co. incorporated with \$12,000 capital stock by C. A. Martin, Jacob Rabey, P. F. Baldner and others.

COAL MINES AND COKE OVENS

Grafton, W. Va.—East Grafton Coal Co. incorporated with A. B. Lane, general superintendent, to develop coal mines three miles east of Grafton.

Martinsburg, W. Va.—Wainville Coal & Coke Co. incorporated with \$40,000 capital stock by John D. Sutton, E. D. Gardner, Alexander Parks, A. R. Stilwell and others; has, it is reported, purchased for development 3000 acres of coal lands.

West Virginia.—Fairmont Coal Co., Fairmont, W. Va., has purchased, it is reported, holdings of Southern Coal & Transportation Co., consisting of about 214 acres of coal land in Harrison and Barbour counties.

CONCRETE AND CEMENT PLANTS

Cumberland Gap, Tenn.—Union Portland Cement Co., J. C. Josse, manager, Rushsylvania, Ohio, has not yet arranged to build plant mentioned in April, but will probably be ready to begin construction in early fall. Previous report stated daily capacity to be 350 barrels of cement, limestone and shale to be conveyed to plant by gravity, and all machinery to be driven by electricity.

Nowata, Okla.—British-American Portland Cement Co., previously reported, will probably announce within 60 days details as to buildings, architect and engineer in charge, etc.; proposed daily capacity, 3000 barrels of Portland cement; executive offices at 510 Dwight Building, Kansas City, Mo.; T. J. Coughlin, general manager.

COTTON COMPRESSES AND GINS

Lamar, S. C.—M. J. Spears will establish cotton ginnery.

Macon, Ga.—Union Cotton Co. incorporated with \$5000 capital stock and privilege of increasing to \$100,000 by C. O. Pittman, Rome, Ga.; T. B. Hendricks, Hawkinsville, Ga.; O. J. Coney, Dublin, Ga., and others.

Texanna, Okla.—Texanna Ginning & Milling Co. incorporated with \$5000 capital stock by J. M. McKnight, John McClure, J. W. Cobb and others.

Texanna, Okla.—Texanna Ginning & Milling Co. incorporated with \$5000 capital stock by J. M. McKnight, John McClure, J. W. Cobb and others.

Yorkville, Tenn.—Union Gin & Manufacturing Co. incorporated with \$6000 capital stock by G. B. Hoiland, Jess Trout, A. E. Turn and others.

COTTONSEED-OIL MILLS

Waurika, Okla.—P. A. Fitzhugh of Clinton, La., will erect \$100,000 cottonseed-oil mill.

ELECTRIC-LIGHT AND POWER PLANTS

Bristow, Okla.—City is planning to install electric-light plant. Address The Mayor. (See "Water-Works.")

Buchanan, Va.—James P. Wood, Roanoke, Va., has, it is reported, purchased and will develop water-power at Little Tunnel, on James river, in Botetourt county, about nine miles from Buchanan. It is proposed to construct tunnel and dam, and it is estimated that 3000 horse-power can be obtained.

Carrollton, Miss.—Delta Machine Works Co., Greenwood, Miss., has contract for complete electric-light plant at Carrollton; cost \$4850; R. C. Houston, engineer. (Recently mentioned.)

Clinton, La.—City contemplates establishing electric-light plant. Address The Mayor.

College Park, Ga.—City contemplates issuance of electric-light bonds. Address The Mayor.

Durham, N. C.—Suburban Land & Power Co. incorporated with \$40,000 capital stock by E. J. Parrish, J. M. Gregory, John Sprunt Hill and others to build electric-light plant. Mr. Parrish is president.

East Point, Ga.—City will vote on issuance of \$15,000 bonds for electric-light plant. Address The Mayor.

Fitzgerald, Ga.—City will vote on June 24 issuance of \$25,000 bonds for extension of electric-light system and water-works. Address The Mayor.

Natchez, Miss.—City awarded five-year contract for public lighting to Lynn H. Dinkins, president Southern Light & Traction Co., at \$90 per foot (per year) of 2000 candle-power; city has 119 lamps.

Nottoway, Va.—Kennedy-Walker Land & Development Co., Kenbridge, Va., has, it is reported, made survey of Crystal Lake, near Nottoway, with view of development to supply electric-light and power; C. H. Moorefield and W. N. Preas of Virginia Polytechnic Institute, Blackstone, Va., were in charge; plan of flume has been made for conveying waters of Little Nottoway river into Crystal lake.

Oklahoma City, Okla.—Crescent Gas & Electric Co. incorporated with \$25,000 capital stock by A. A. Klein, B. M. Kahn, F. B. Owen and others.

West Palm Beach, Fla.—City has granted franchise to Ariston Ice & Electric Co. for electric lighting.

Wetumka, Okla.—City has voted \$25,000 of bonds to construct light and water plant. Address The Mayor.

FLOUR, FEED AND MEAL MILLS

Barnesville, Ga.—Barnesville Milling Co., Athol Houk, manager, is installing \$2500 meal mill.

Jacksonville, Fla.—Wilson & Parker Company incorporated with \$15,000 capital stock; George M. Parker, president; Thomas M.

Wilson, vice-president; A. D. Polk, secretary and treasurer.

Kingfisher, Okla.—Kingfisher Mill & Elevator Co. incorporated with \$50,000 capital stock by W. J. Brown, L. W. Foster, E. W. Hunt and others.

Kingfisher, Okla.—Flickinger & Wohl will establish alfalfa mill; to cost approximately \$10,000.

Nashville, Tenn.—E. A. Dorris & Sons have purchased Malzo Cereal Mills, as recently reported; they have boiler, engine and electrical equipment and will purchase flour-mill machinery. (See "Machinery Wanted.")

New Orleans, La.—Lawrence & Hamilton Feed Co., Ltd., R. M. Lawrence, president, has purchased plant of New Orleans Milling Co.; present capacity is 225 barrels of meal and grits per day; machinery will be installed giving output of 150 tons of feed per day; plant will be operated day and night.

Vernon, Texas.—Kell Milling Co.'s plant, recently mentioned, was but slightly damaged by storm.

FOUNDRY AND MACHINE PLANTS

Albany, Ga.—Tips Foundry Co. will, it is reported, enlarge gasoline-engine plant.

Anniston, Ala.—Iron Works—Lewis Iron Works, E. M. Lewis, president and manager, has not decided on plans for rebuilding. (Recently noted.)

Anniston, Ala.—Pressure Pipe—E. E. Linthicum and associates are promoting organization of company, capitalized at \$125,000, to establish plant to manufacture pressure pipe.

Atlanta, Ga.—Garage—John T. Glenn Estate has had plans prepared by A. T. Brown, Atlanta, for two-story reinforced concrete structure to be occupied by White Steamer Automobile Co. of Cleveland, Ohio; first floor will be used as garage, waiting room and local sales office; second floor, distributing warehouse and repair shop. E. W. Gans will be general manager.

Beaumont, Texas.—Texas Iron Works incorporated with \$75,000 capital stock by M. W. Carroll, W. C. Gray, G. W. Carroll and others.

Chattanooga, Tenn.—Chattanooga Gas Co. will erect building, part of which will be equipped as blacksmith and fitting shop. (See "Miscellaneous Structures.")

Covington, Ky.—Steel Roofing, etc.—Steel Fireproof Construction Co. incorporated with \$75,000 capital stock by Henry R. Myers, Jas. M. Rude and E. S. Lee to manufacture cellular steel roofing and sheet-metal building material. (Recently reported incorporated under "Miscellaneous Enterprises.")

Durmid, Va.—United Cigarette Machine Co., Ltd., Lynchburg, Va., will receive estimates until July 1 to convert machine shop into foundry; separate estimates for brick and carpenter work; plans for alteration by Edgar C. Wiley; cost \$7500; daily capacity of cupola, seven to nine tons per hour.

Houston, Texas—Car Wheels—Dickson Car Wheel Co., John F. Dickson, president and treasurer, will rebuild plant recently reported burned; plans not yet made.

Markham, Texas—Oil-well Supplies—Walker Supply Co. incorporated; George R. Burke, president; George Miller, vice-president; Sig. Leon, secretary; T. J. Walker, treasurer and manager; will erect building and will handle oil-well supplies and hardware and operate general machine shop.

Markham, Texas—Walker Supply & Machine Co. incorporated with \$10,000 capital stock to operate machine shop.

New Orleans, La.—Farming Tools—John Rely Hoe Co. incorporated with \$40,000 capital stock; Wm. B. Rely, president; J. B. Rely, vice-president; Wm. Burkenroad, secretary and treasurer.

Richmond, Va.—Richmond Stove Co., W. J. Anderson, president, will rebuild plant reported destroyed by fire; loss about \$200,000.

St. Louis, Mo.—Tools—McCord Manufacturing Co. will, it is reported, erect plant for manufacture of special tools for making plumbers' supplies and builders' hardware, expending about \$100,000.

GAS AND OIL DEVELOPMENTS

Chattanooga, Tenn.—Southeastern Oil Co. incorporated with \$100,000 capital stock by James S. Cannon, C. D. Reamer, Clark S. Crandall and others.

Clarksburg, W. Va.—Morris Oil & Gas Co. recently reported incorporated, will operate

for oil and gas; president, David E. West; secretary and general manager, David M. Morris; engineer in charge, Amos T. Morris, Bristol, W. Va. (See "Machinery Wanted.")

Gaffney, S. C.—Cherokee Oil Mill incorporated with \$30,000 capital stock by J. Q. Little, J. L. Walker, T. R. Wilkins and others; buildings will be erected and equipped; to use electric power.

Muskogee, Okla.—Revell Oil Co. incorporated by J. Spangenberg, W. H. Irving and O. D. Revell.

Omulgee, Okla.—Allegheny Oil Co. incorporated with \$10,000 capital stock by John H. Rebold, William C. Newman and R. C. Winslow.

Omulgee, Okla.—Veda Oil Co. incorporated with \$5000 capital stock by R. C. Winslow, J. O. Hamilton and C. R. Forbes.

Palestine, Texas.—Ezell and Bell Oil & Mineral Co. incorporated with \$5000 capital stock by P. W. Ezell, C. R. Bell, A. L. Bowlers and others.

Sapulpa, Okla.—Twin Hills Oil & Gas Co. incorporated with \$50,000 capital stock by Virgil Hicks, M. H. Salvin and H. H. McFann.

Scott, W. Va.—Winscott Oil & Gas Co. incorporated with \$25,000 capital stock by C. F. Cole, W. R. Thompson, T. J. Bryan, all of Huntington, W. Va., and others.

Sinton, Texas.—Company has been organized with \$10,000 capital stock by C. V. Birkhead, Dr. Hunter, both of San Antonio, Texas, and others, to develop oil lands near Sinton.

Sistersville, W. Va.—Reno Oil Co. incorporated with \$35,000 capital stock by H. W. McCoy, J. P. Flynn, R. Broadwater and others.

Wheeling, W. Va.—Sanatel Oil & Gas Co. incorporated with \$10,000 capital stock by Alexander Bolton, Ralph Kline, James A. Farrell and others.

ICE AND COLD-STORAGE PLANTS

Appalachia, Va.—L. O. Pettit and associates of Big Stone Gap, Va., are planning establishment of ice plant.

Atlee, Va.—W. C. Newman contemplates establishing six-ton ice plant. (See "Machinery Wanted.")

Clinton, La.—City contemplates establishment of ice plant. Address The Mayor.

Fort Dade, Fla.—Bids will be opened July 16 for construction of distilling and ice plant. Address Constructing Quartermaster, Fort Dade, Fla. (See "Machinery Wanted.")

Hobart, Okla.—Hobart Ice & Coal Co. incorporated with \$30,000 capital stock by A. H. Kramer, W. H. Kramer and C. H. Avrill.

IRON AND STEEL PLANTS

Sugar Valley, Ga.—Iron Furnace.—E. R. Le Fevre, Gadsden, Ala., is reported as to build iron furnace near Sugar Valley (See "Mining.")

LUMBER-MANUFACTURING PLANTS

Bellwood, Ala.—Choctawhatchee Lumber Co., recently reported incorporated (under Geneva, Ala.), will establish plant with 25,000 feet daily capacity; no machinery needed at present; do not contemplate immediate operation; president, J. T. Duncan; secretary-treasurer, J. P. Lawson.

Bonita, Miss.—Millbrook Lumber Co., recently noted incorporated by S. A. Neville and others, is proceeding with erection of hardwood dimension stock mill; has installed planer for custom dressing, and will manufacture wagon and chair stock, etc. (See "Woodworking Plants.")

Cherokee, Okla.—Van Order Lumber Co. incorporated with \$10,000 capital stock by J. Van Order, M. M. Van Order and H. M. Glenn.

El Paso, Texas.—Rio Grande Lumber Co. incorporated with \$10,000 capital stock by R. B. Ondorf, T. J. Caldwell, C. W. Sedden and others.

Lovelady, Texas.—W. W. West Company incorporated with \$100,000 capital stock by W. W. West, George H. Seaman and L. B. Atmar.

Marksville, La.—William Chalfant, Jr., West Chester, Pa., who recently purchased 104,000 acres of timber land owned by the Avoyelles Company, is understood to plan reorganization of that company and development of the properties in the future.

Memphis, Tenn.—Walden-Braxton Manufacturing Co., 883 Michigan avenue, recently reported incorporated, has rented, and will operate mill of Tennessee Lumber Co.;

Harry Woolard, engineer in charge; Corbin Braxton, manager; no machinery needed.

Memphis, Tenn.—J. W. Dickson will rebuild plant reported in May as destroyed by fire.

Mena, Ark.—Watkins Lumber Co., recently reported incorporated, succeeds former Watkins Lumber Co.; will continue to manufacture dressed and rough yellow-pine lumber; daily capacity about 25,000 feet; no equipment needed; W. E. Watkins, manager.

Richmond, Va.—Sunbury Timber Corporation incorporated with \$50,000 capital stock; W. H. Bagwell, president; J. T. Bailey, vice-president; W. Kinsey, secretary and treasurer.

San Antonio, Texas.—T. J. Williams Lumber Co. incorporated with \$25,000 capital stock by T. J. Williams, D. J. Williams and S. B. Hicks.

South Carolina.—Unaka Lumber Co. of Johnson City, Tenn., is planning development of tract of timber land in South Carolina.

Stuttgart, Ark.—G. L. Cummins of Petersburg, Ind., has purchased 340 acres of timber land near Stuttgart and will establish sawmill.

MINING

Berkeley Springs, W. Va.—Sand.—Sterling Sand Co. incorporated with \$50,000 capital stock by N. J. Speer, H. B. Speer, N. J. Speer, Jr., and others.

Birmingham, Ala.—Alabama Fuel & Iron Co. has increased capital stock from \$2,000,000 to \$2,500,000.

Birmingham, Ala.—Iron.—Jefferson Iron & Supply Co. incorporated; E. O. Howle, president and general manager; E. L. Pauley, vice-president; J. L. Cross, secretary and treasurer.

Covington, Va.—Iron.—Oriskany Ore & Iron Co. incorporated with \$100,000 capital stock; R. L. Parrish, Covington, president; W. Taylor, Clifton Forge, Va., vice-president; B. T. McPeak, Covington, secretary and treasurer.

Kansas City, Mo.—Cottonwood Mines Co. incorporated with \$150,000 capital stock by A. Ayres, W. M. Rynerson and Wm. J. Morse.

Neck, Mo.—Zinc.—Big Fly Mining Co., recently reported incorporated (under Joplin, Mo.), will erect building about 80x120 feet;

cost of building and machinery approximately \$28,000; M. B. Lawrence, superintendent, Joplin.

Nelson County, Okla.—Soapstone.—Climax Soapstone Co. incorporated with \$10,000 capital stock; R. B. Honeyman, president; T. C. Watkins, secretary; J. G. Porter, general manager; all of New York; to operate soapstone quarries in Nelson county.

Palestine, Texas.—Ezell & Bell Oil & Mineral Co. incorporated by P. W. Ezell and others. (See "Gas and Oil Developments.")

Sugar Valley, Ga.—Iron Ore.—E. R. Le Fevre, Gadsden, Ala., has, it is reported, purchased and will develop about 2000 acres of land containing iron-ore and copper deposits in Gordon and Walker counties, and will build furnace near Sugar Valley.

MISCELLANEOUS CONSTRUCTION WORK

Baltimore, Md.—Pier.—Baltimore & Ohio Railroad awarded contract to McLean Contracting Co., Maryland Trust Building, Baltimore, to rebuild section of Pier 8, Locust Point, which collapsed last year; 500 feet long and 160 feet wide; 5000 piles and 3,000,000 feet of lumber will be required; contract price about \$350,000; double-deck superstructure of steel frame and corrugated iron sides will be separate contract.

Baltimore, Md.—Concrete Piers.—Sanford & Brooks Company, Commerce and Water streets, Baltimore, Md., previously reported as having contract at \$1,219,517 for construction of three reinforced concrete piers for Raymond Concrete Pile Co., 140 Cedar street, New York, all concrete, including approximately 278,000 linear feet reinforced concrete sheet piling, 25,000 linear feet reinforced concrete piling, girders, floor slabs, etc.; Maryland Steel Co., Sparrows Point, Md., through R. C. Hoffman & Co., Continental Building, Baltimore, Md., 450 3x10-foot steel cylinders.

Baltimore, Md.—Overhead Crossings.—Baltimore & Ohio Railroad Co., D. D. Catherers, chief engineer, Baltimore and Charles streets, plans to build overhead crossings south of Camden Station, and probably \$3,000,000 will be expended. No details have been announced, but it is proposed to have the work completed within six years.

Charleston, S. C.—Timber Piers.—Bureau of Yards and Docks, Washington, D. C., is inviting proposals for constructing timber piers. (See "Machinery Wanted.")

Cottonwood Point, Mo.—Levee.—Government awarded contract for 350,000 cubic yards of levee work to Roach & Stansell, Memphis, Tenn.; work to be done on Arkansas side of Mississippi river.

English, Ark.—Levee.—John M. Gracie, J. W. Jones, B. L. Gocio and others will construct levee at Old river, District No. 2, extending east along the north bank of the river to District No. 4 at Dry Lake, a distance of one and one-quarter miles.

Fort Worth, Texas.—Dike Construction.—Henry Dixon has begun preliminary surveys for construction of dikes along the West and Clear forks to prevent flood damage; cost about \$300,000.

Hendersenville, N. C.—Lake.—Osceola Lake Co. incorporated; president, Charles Clark; M. C. Toms, vice-president; K. G. Morris, secretary-treasurer; will construct lake to cost \$15,000; width 1/4 mile; length 3/4 mile; present use, boating, etc.; later to supply power for electric lights and water supply; P. F. Patton, engineer.

Jackson, Miss.—Steam-heating Plant.—F. A. Clegg & Co., 237 3d street, Louisville, Ky., have received contract at \$11,545 to remodel steam-heating plant in insane asylum of Jackson.

Key West, Fla.—Quay Wall, etc.—Bureau of Yards and Docks, R. C. Hollyday, chief, Washington, D. C., will open bids August 1 for building steel and concrete quay wall and pier on timber piles, and steel and concrete coal shed. (See "Machinery Wanted.")

Medley, Mo.—Levee.—Government awarded contract to A. D. Little, Caruthersville, Mo., for 100,000 cubic yards of levee work at Medley, Mo.; work to be done on Arkansas side of Mississippi river.

Nashville, Tenn.—Steel Gates.—United States Engineer Office, Wm. W. Harris, Major, Engineers, will open bids July 15 for construction and erection of steel gates. (See "Machinery Wanted.")

Osceola, Ark.—Drainage.—Engineers appointed to make surveys and estimate cost of two drainage canals in Mississippi county have filed report with Mississippi County Commissioners. It is estimated that Grassy lake and Tyronea ditch, which flow into Little river, will cost \$980,000, and ditch No. 8, which it is said will drain 60,000 acres of land, will cost \$330,000. (Previously mentioned.)

Pecos, Texas.—Canal.—Farmers' Independent Canal Co. incorporated with \$10,000 capital stock by W. D. Hudson, H. P. Snow and J. E. Hudson.

Port Arthur, Texas.—Docks.—Gulf Refining Co. has purchased 400 feet of additional frontage on Taylor bayou, making total frontage of 1250 feet now controlled by company, on which it is reported, docks will be erected.

Quanah, Texas.—Irrigation.—Lakeview Irrigation Co. incorporated with \$900 capital stock by J. W. Colston, W. G. Crowder and W. R. Dupuy.

MISCELLANEOUS ENTERPRISES

Baltimore, Md.—Building Material.—Hord-Behrens Company incorporated with \$5000 capital stock by Charles F. Behrens, president; Patapsco Supply Co., Hoffman building; Albert S. Gill of Rufus N. Gill & Sons, 215 St. Paul street, and George M. Hord.

Baltimore, Md.—Grain Elevators.—Pennsylvania Railroad Co. is progressing steadily with enlargements to grain-handling facilities, previously detailed. Its bins at No. 3 elevator include 52 tanks, all 79 feet deep; storage capacity of No. 3 elevator (for exporting) will be doubled by September 1, giving capacity of 2,000,000 bushels; John W. Craig, assistant engineer, 1610 St. Paul street and No. 3 elevator.

Birmingham, Ala.—Construction.—Simmons Construction Co. incorporated with \$5000 capital stock; A. C. Simmons, president and general manager; M. A. Hayes, treasurer; E. S. Hayes, secretary.

Blessing, Texas.—Robertson-Laramore Company incorporated with \$10,000 capital stock by G. B. Robertson, Jesse Laramore and Mrs. E. C. Brown.

Chickasha, Okla.—Grain Elevator.—Farmers' Seed & Feed Co. will erect grain elevator.

Dallas, Texas.—Orchard.—Ogburn Orchard Co. incorporated with \$35,000 capital stock by J. W. Ogburn, P. P. Cooper and J. S. Ogburn.

Dallas, Texas.—Steam Cleaning and Dyeing Plant.—C. W. Hurlbert will establish steam cleaning and dyeing plant; building 20x100 feet, one story, but foundation to accommodate another story will be erected.

Durham, N. C.—Land Improvement.—Suburban Land Co. incorporated with \$40,000

and privilege of increasing to \$250,000; E. J. Parrish, president.

Hartford, Ky.—Contracting.—Hartford Stone & Construction Co. incorporated by Rowan Holbrook, John T. Moore and E. W. Cooper.

Havre de Grace, Md.—Susquehanna Properties Co. incorporated with \$5000 capital stock; Joel H. DeVictor, Philadelphia, Pa.; William H. Surratt, 31 Central Savings Building, and George R. Willis, 213 Courtland street, both of Baltimore, Md., directors.

Joplin, Mo.—Dieter & Wenzel Construction Co. incorporated with \$10,000 capital stock by A. Dieter, John Wenzel and E. W. Sleton.

Kansas City, Mo.—Publishing.—Burton Publishing Co. incorporated with \$10,000 capital stock by O. D. Burton, Mabel E. Burton and E. H. Manchester.

Kingfisher, Okla.—Publishing.—Midget Printing Co. recently reported incorporated, will publish daily newspaper; W. E. Miller, editor and manager.

Lawrenceville, Va.—Land Improvement.—Windsor Park Corporation incorporated with \$25,000 capital stock; F. W. Davie, president; J. M. Williams, vice-president; J. E. Snow, secretary and treasurer.

Lexington, Ky.—Printing.—Transylvania Printing Co. incorporated with \$20,000 capital stock by E. D. Veach, James R. Bush and T. M. Owsley.

Louisville, Ky.—Steam Laundry.—Ideal Laundry Co. has increased capital stock to \$15,000.

Louisville, Ky.—Steam Laundry.—Louisville Overall Laundry incorporated with \$3000 capital stock by H. J. Theiman, L. J. Junker and C. Metzger.

Mercedes, Texas.—Plantation.—Mercedes Plantation Co. incorporated with \$70,000 capital stock by T. M. Lawrence, F. S. Scobey and Ray Campbell.

New Orleans, La.—Land Improvement.—Oakdale Improvement Co. incorporated with \$230,000 capital stock; Louis H. Marrere, president; William Winans Wall, vice-president; Robert H. Marr, secretary and treasurer.

Norfolk, Va.—Contracting.—Southern Utilities Corporation incorporated with \$100,000 capital stock; W. H. Fritchman, New York, president; E. F. Kitson, Norfolk, treasurer; G. A. Frick, Virginia Beach, Va., secretary; to contract for gas, water and electric plants.

Norfolk, Va.—Contracting.—Walker Roofing & Heating Co. incorporated with \$25,000 capital stock; T. D. Walker, president; F. B. Walker, treasurer; C. E. Dawley, secretary.

Pikeville, Ky.—Bottling.—Mountain Water Co. incorporated by W. K. Elliott, J. F. Pauley and others.

Roland Park, Station L, Baltimore, Md.—Baltimore Stucco Relief & Plastering Co. incorporated by Charles E. Litzinger, Richard P. Litzinger, James H. Brown and George E. Robinson to continue established business: offices, 117 Prospect avenue.

Savannah, Ga.—Builders' Supplies.—Southern Builders' Supply Co. incorporated with \$15,000 capital stock by J. L. Christian, G. R. Head, J. M. Harmon and A. B. Crosby. Mr. Christian will be manager.

Savannah, Ga.—Steamship Line.—North American Steamship Line incorporated with \$50,000 capital stock by E. W. Smith, Mills B. Lane, F. C. Battey and others for general foreign shipping. Mr. Smith will probably be president.

St. Louis, Mo.—Photo-engraving.—St. Louis Photo-Engraving Co. incorporated by J. Alexander Goodwin, Charles F. Chetham and Ida Chetham.

St. Louis, Mo.—Stockyards.—Independent Stockyards Co. incorporated with \$10,000 capital stock by J. W. Piegle, John V. Tourney, W. D. Reed and others.

St. Louis, Mo.—Electric Contracting.—F. E. Newberry Electric Co. incorporated with \$50,000 capital stock by F. E. Newberry, W. S. Denison, G. H. Newberry and E. Meyer.

Suffolk, Va.—Land Improvement.—Lakeside Park Corporation incorporated with \$30,000 capital stock; H. W. Campbell, president; F. W. Lloyd, vice-president.

Victoria, Texas.—Land Improvements.—North Heights Realty Co. incorporated with \$10,000 capital stock by W. K. Hexter, F. B. Lander, P. R. Austin and others.

MISCELLANEOUS MANUFACTURING PLANTS

Alexandria, Va.—Slot Machines.—Columbia Newspaper Vending Machine Co. incorporated with \$75,000; M. C. Masterson, president, Department of Justice, 1435 K street N. W.; G. B. Ostermayer, 609 6th street N.

W., vice-president; H. C. Heckman, secretary, Department of Justice, 1435 K street N. W.; all of Washington, D. C.

Atlanta, Ga.—Bottling Works.—Georgia Realty & Investment Co., Asa G. Candler, president, is planning to erect three-story brick factory and six two-story store buildings on mill property reported purchased at cost of \$150,000. Former will be 150x75 feet, will be operated by Coca-Cola Manufacturing Co. and equipped for daily capacity of 10,000 gallons; store building will occupy site 180x125 feet; expenditure \$100,000.

Ballinger, Texas—Bottling Plant.—Ballinger Bottling & Manufacturing Co. Incorporated with \$8000 capital stock by J. E. Wilmett, Tom Ward and Jack McGregor.

Baltimore, Md.—Gas Plant.—City awarded contract to James F. Farley, 43 Franklin Building, Baltimore, at \$3175 for erection of proposed acetylene-gas plant and other improvements at Quarantine Hospital.

Baltimore, Md.—Roller Skates.—Baltimore Skate Manufacturing Co. Incorporated with \$125,000 capital stock by W. D. Randall, 410 East Baltimore street; Wm. D. Randall, Jr., vice-president; D. B. Taylor & Co., 17 South Charles street, and Arthur Pomroy.

Bartlesville, Okla.—Ice Cream.—P. C. Remler will establish ice-cream factory.

Birmingham, Ala.—Carbonic-acid Gas.—Barber & Bro., 16th street and Frisco tracks, are planning to establish plant for manufacturing carbonic-acid gas, compressing it and marketing in steel drums; no machinery has been purchased. (See "Machinery Wanted.")

Birmingham, Ala.—Paint.—Southern Paint Manufacturing Co. purchased plant of Rankin-Tuck Paint Co. and will operate same, increasing output; will not erect buildings or install new machinery at present; officers are J. W. Rankin, president; Ben Meyer, vice-president; D. S. Meyer, secretary-treasurer. (Recently noted.)

Blountville, Tenn.—Overalls.—Mahoney-Lipscomb Company has changed name to Double-Header Overall Manufacturing Co. and increased capital stock from \$15,000 to \$40,000.

Bowling Green, Ky.—Bottling.—Mead & Maltine Co. Incorporated by F. C. Schoenthaler, Jr., Banning Gray and John Gund, Jr.

Bristol, Va.-Tenn.—Medicines.—Andrews Manufacturing Co. is erecting building; three stories; frame; 42x85 feet; will be equipped with machinery for manufacturing medicines.

Bunkie, La.—Sugar Refinery.—M. L. Alexander, secretary of Alexandria Progressive League, Alexandria, La., and C. O. Freeman of Lecompte, La., are promoting establishment of sugar refinery.

Chattanooga, Tenn.—Fertilizer.—Chickamauga Fertilizer Works, recently reported incorporated (under Atlanta, Ga.) with \$120,000 capital stock, will operate plant at East Chattanooga formerly owned by A. D. Adair and McCarty Bros.; fertilizing plant complete, with exception of acid chambers; will purchase acid in tank cars; plant occupying 80 acres; cost, including machinery, \$120,000; capacity 25,000 tons annually; officers, A. D. Adair, Sr., president; G. W. McCarty, vice-president, and J. D. McCarty, secretary-treasurer.

Chattanooga, Tenn.—Ice Cream, etc.—Farmers' Building Co., 815 Cherry street, recently reported incorporated with \$30,000 capital stock, will build brick and cement building for milk depot; two stories and basement; composition roof. Incorporators are owners of East Tennessee Dairy Co., to occupy building; will enlarge present refrigeration plant; steam and electric power for refrigeration, ice-cream machinery, pasteurizing, etc.; capacity milk handling, 5000 gallons daily; architects, R. B. Patton & Son, Times Building, Chattanooga; president, H. H. Matlock, Riceville, Tenn.; vice-president, W. B. Garvin; secretary-treasurer, J. W. Gillespie.

Chattanooga, Tenn.—Lime.—Southern White Lime Co., recently reported incorporated with \$50,000 capital stock by James J. Lynch and others, will take over and operate property of former American Lime Co. of Spring City, Tenn.; is subsidiary to Southern Lime & Cement Co. of Charleston; will manufacture lime, crush stone and hold sawmill and other property at Spring City, Tenn.; plans not completed.

Chevy Chase, Md.—Gas Plant.—Georgetown Gas Co., Washington, D. C., has applied for permission to extend main line from Tenallytown, along Georgetown and Rockville pike, to Bradley lane, and along Bradley lane to Chevy Chase.

Dallas, Texas—Bottling.—Crown Manufacturing & Bottling Co. Incorporated with \$32,000 capital stock by Virgil L. Potts, Albert Schuman, J. T. Nelson and Charles Kaufman.

Elkins, W. Va.—Sheet Metal.—Brazier Blower & Manufacturing Co. Incorporated with \$10,000 capital stock by J. W. Brazier, S. T. Spears, W. K. Harper and others.

Greenville, Ky.—Creamery.—Greenville Creamery Association Incorporated with \$5600 capital stock by G. P. Wood, J. U. Duvall, A. J. Cornett and others.

Helena, Ala.—Hoops and Cotton Ties.—George W. Connors has purchased Helena rolling mill and pipe works; will install new machinery and convert into hoop and cotton-tie plant.

Louisville, Ky.—Chemicals.—Non-Explosive Chemical Co., recently reported incorporated, will manufacture fluid for rendering gasoline non-explosive; Percy Sternau, president; H. H. Bendewald, manager; office address, 742 East Market street; plant, 533 East Market street.

Lynchburg, Va.—Bottling.—Lynchburg Coca-Cola Bottling Works Incorporated with \$10,000 capital stock; F. W. Lupton, president, Chattanooga, Tenn.; J. W. Lupton, vice-president; R. J. Shine, secretary and treasurer, of Lynchburg.

Memphis, Tenn.—Snuff and Tin Cans.—American Snuff Co., Martin J. Condon, president, will erect snuff and tin-can factory and remodel box plant, expending about \$100,000.

Memphis, Tenn.—Roof Paint.—J. E. Roof Paint Manufacturing Co. Incorporated with \$10,000 capital stock by I. B. Hargrave, A. J. Hollingsworth, W. A. Reed and others.

Mifflin, Ala.—Fertilizer and Poultry Food.—Mifflin Fish & Ice Co. will manufacture fertilizer and poultry food from refuse of canneries. (See "Canning and Packing Plants.")

Mobile, Ala.—Rosin and Turpentine.—J. K. Secor, A. M. Chesbrough and J. E. Lockwood of Toledo, Ohio, will build, it is reported, plant for manufacturing turpentine and rosin from pine stumps and lightwood.

New Orleans, La.—Mosquito Bars.—Mosquito Bar Co., Ltd., Incorporated by Paul Meyer, John H. Daft and George Langtry.

New Orleans, La.—Rice Mill.—Empire Rice

Mill Co., Gordon S. Orme, president, recently noted to have awarded building contract to J. A. Petty, New Orleans, is erecting four-story brick structure for mill proper and one-story brick warehouse, 250x160 feet, at cost of about \$50,000 for both; cost of machinery, \$25,000; capacity about 1000 barrels daily; office, St. James and Tchoupitoulas street.

Norfolk, Va.—Distillery.—Standard Distilling Co. Incorporated with \$25,000 capital stock; Julius Sternberger, president, Wilmington, N. C.; J. P. M. Joyce, vice-president, Portsmouth; E. B. Snipe, secretary and treasurer, Wilmington, N. C.

Norfolk, Va.—Novelties.—Berkley Novelty Corporation Incorporated with \$25,000 capital stock; C. B. Gibbs, president; B. B. Bott, vice-president; W. H. Parron, secretary.

Oklahoma City, Okla.—Wire Fence.—Oklahoma Wire Fence Co. Incorporated with \$50,000 capital stock by N. V. Elliott, J. W. Shaver, Benfontaine, Ohio, and H. G. Chamberlain.

Oklahoma City, Okla.—Deming Manufacturing Co. Incorporated with \$25,000 capital stock by H. H. Deming, H. H. Gallan and A. J. McMahan.

Oklahoma City, Okla.—Porter Manufacturing Co. Incorporated with \$10,000 capital stock by J. M. Porter, M. J. Porter and E. V. Remington.

Orange, Texas—Shipyard.—M. J. Copal has not yet decided on site for shipyard recently reported. (See "Machinery Wanted.")

Ozark, Mo.—Kerr Manufacturing Co. Incorporated with \$10,000 capital stock by J. A. Kerr, E. L. Neal, J. L. Garrison and others.

Petersburg, Va.—Leather.—Mattox Leather Co. Incorporated with \$50,000 capital stock; W. N. Jones, president; C. R. Butler, vice-president; B. V. Jones, secretary and treasurer; has leased plant of Virginia Kid Co.; no improvements contemplated.

Portsmouth, Va.—Distillery.—Trulove Distilling Co. Incorporated with \$10,000 capital stock; H. E. Trulove, president, Wilmington, N. C.; James F. Ryan, vice-president, Portsmouth; J. A. Watkins, secretary and treasurer, Wilmington, N. C.

Richmond, Va.—Brewery.—Joseph Schlitz Brewing Co., Milwaukee, Wis., will not build plant. (Recently incorrectly reported.)

Sedalia, Mo.—Chemicals.—Mi-Rab-I-Lis Chemical Co. Incorporated with \$25,000 capital stock by George T. Irvine, B. Doneley and W. A. Latimer.

St. Joseph, Mo.—Bottling.—Hund & Eger Bottling Co. Incorporated with \$25,000 capital stock by William Hund, A. W. Haefell and William Schmalz.

St. Louis, Mo.—Tobacco.—Rockel Leaf Tobacco Co. Incorporated with \$90,000 capital stock by Charles E. Rockel, John M. Maloney and Clinton A. Ten Elk.

St. Louis, Mo.—Drugs and Chemicals.—American Drug & Chemical Co. Incorporated with \$200,000 capital stock by Robert Boyd, C. Horace Johnson, Ben L. Dorsey and others.

St. Louis, Mo.—Metals.—Hoyt Metal Co. Incorporated with \$25,000 capital stock by Edward R. Hoyt, H. Newton Hudson, Brady S. Thompson and others.

St. Louis, Mo.—Pants.—Mound City Pants Co. Incorporated by Isaac Hirschfeld, Reuben Hirschfeld and Morris Buck.

Tampa, Fla.—Cigars.—C. B. Witt has purchased El Nacional Cigar Co. and will enlarge and improve factory.

Tampa, Fla.—Cigars.—Gonzalez, Fisher & Co. awarded contract to McGucken & Dekle, Tampa, for erection of cigar factory to replace burned structure; four stories; 50x137 feet; elevators; cost about \$33,000; plans by Miller & Kennard, American National Bank Building, Tampa. (Mentioned in May.)

Temple, Texas—Gas Plant.—City is prepared to correspond relative to establishment of gas-lighting plant; William Ginnuth is Mayor.

Temple, Texas—Creamery.—Hemman-Besomette Company will establish creamery. Note item under "Canning and Packing Plants." (See "Machinery Wanted.")

RAILWAY SHOPS, TERMINALS, ROUNDHOUSES, ETC.

Baltimore, Md.—Baltimore & Pennsylvania Railroad, J. S. Norris, general manager, Baltimore, is planning to construct terminal facilities on the Falls road, including yards and warehouses. Property comprises about 11 acres, and contract for grading, involving removal of about 50,000 cubic yards of earth, awarded to John F. Potts & Sons, 111 Clay street, Baltimore, at about \$10,000; steam shovels will be used.

ROAD AND STREET IMPROVEMENTS

Anniston, Ala.—City is considering issuance of \$12,000 of bonds to pave sidewalks and other improvements. Address The Mayor.

Austin, Texas—Ockander Bros., Waco, Texas, have contract at \$2.10 per surface yard for paving West 6th street.

Baltimore, Md.—City will probably not award contract during present year for paving Carey street, between Lexington street and Columbia avenue; appropriation, \$50,000; Benjamin T. Fendall, City Engineer, president Board of Public Improvements. (Recently mentioned.)

Baltimore, Md.—W. W. Crosby, road engineer to the Good Roads Commission, expects to arrange for early surveys of the public roads to be improved and constructed under the \$5,000,000 loan announced several months ago; these roads located throughout the State, and details will be reported from time to time in the future; offices of Mr. Crosby with Maryland Geological Survey, Johns Hopkins University, Howard street and Druid Hill avenue.

Baltimore, Md.—City will pave Caton avenue from Frederick road to Wilkens avenue with belgian blocks. Address James H. Smith, president Commissioners for Opening Streets, Hoen Building.

Blountville, Tenn.—Sullivan county has voted \$100,000 of bonds for road improvements. Address County Commissioners. (Noted in May.)

Charleston, W. Va.—City awarded contract at \$1.75 per square yard to Pfaff & Smith, Charleston, for paving square at intersection of Brooks and Kanawha streets, and to W. A. Cummings & Bro., Charleston, for concrete sidewalks and curbing on Lovell, Ross and other streets at 14 cents per square yard for paving and 45 cents per linear foot for curbing. City will vote July 9 on issuance of \$300,000 of bonds for grading, paving, sewerage and other improvements to streets. J. A. Holley, mayor. (Recently mentioned.)

Clarksville, Miss.—City awarded contract at 11½ cents per square foot to Delta Construction Co., Memphis, Tenn., for five miles of concrete sidewalk. (Recently mentioned.)

Columbus, Ga.—The Jordan Company will, it is reported, lay 900 linear feet of granolithic sidewalks and curbing in Waverly terrace.

Eatonton, Ga.—City contemplates voting on \$6000 bond issue in July for sidewalk paving; M. F. Adams, Mayor.

Fayetteville, N. C.—City will pave during

fall about 30,000 square yards of streets with either vitrified brick or bitulithic, expending about \$90,000; John K. Strange, engineer in charge; V. C. Bullard, Mayor; J. F. L. Armfield, chairman Street Committee. (Recently mentioned. See "Machinery Wanted.")

Fort Barrancas, Fla.—City awarded contract at \$5000 to W. E. Taylor, Pensacola, Fla., for 3000 feet of cement sidewalks.

Georgetown, Texas.—Williamson county will vote September 5 on issuance of \$500,000 of bonds for macadamizing roads. Address County Commissioners.

Hillsboro, Texas.—City is considering improvement of streets. Address The Mayor.

Houston, Texas.—Harris County Commissioners awarded contract to Haden & Smith of Houston, at \$6,163.40, for paving one mile on Crosby and Liberty county road; to W. S. Hipp of Houston, at \$17,486.42, for paving two and one-half miles on Main street with crushed rock, and at \$5,632.52 for paving one mile on Leeland avenue road with crushed rock. Contract recently reported awarded W. S. Hipp for constructing five miles on West Montgomery road has been cancelled, and new bids will be opened July 14.

Jackson, Tenn.—City will let contracts July 7 for construction of paving recently mentioned; about 25,000 square feet concrete walk and 4500 linear feet curb and gutter; Atwell Thompson, City Engineer. (See "Machinery Wanted.")

Knoxville, Tenn.—City awarded contracts for paving Improvements Districts from 19 to 39, inclusive, as follows: R. S. Blome Company, Chicago, Ill., at \$1.88 per square yard for laying 30,860 square yards granolithic paving, with 5½-inch concrete base; Barber Asphalt Paving Co., Louisville, Ky., and Philadelphia, Pa., for laying 57,880 square yards of Trinidad asphalt paving, with both 5 and 6-inch concrete base, at \$1.95 for latter and \$1.86 for former; Southern Paving & Construction Co., Chattanooga, Tenn., for 4325 square yards asphalt paving, with 5-inch concrete base, at \$1.70 and \$1.78 per square yard, and 3880 square yards of brick paving, with 4 and 6-inch concrete base, at \$2.04 for latter; Southern Bitulithic Co., Nashville, Tenn., for 3825 square yards of bitulithic paving, with 5 and 6-inch concrete base, at \$2.05 and \$2.10 for latter and \$1.87 and \$2.02 for former; S. D. Newton, City Engineer.

Lexington, Ky.—City will open bids June 24 for macadamizing Columbia avenue from Rose street to Woodlawn avenue; plans and specifications on file in office of City Engineer; John Skain, Mayor. (See "Machinery Wanted.")

Lexington, Ky.—City will open bids June 24 for macadamizing Woodlawn avenue extended from Euclid avenue to Columbia avenue; plans and specifications on file at office of City Engineer; John Skain, Mayor. (See "Machinery Wanted.")

Lynchburg, Va.—A. J. Miller & Son of Lynchburg have contract to lay 2100 square yards granolithic sidewalks at \$1.13½ per square foot and about 1000 cubic yards excavation at 30 cents per cubic yard; H. L. Shaner, City Engineer. (Recently mentioned.)

Mobile, Ala.—Board of Public Works, Stewart Brooks, president, will open bids July 13 for wooden-block and vitrified-brick paving and cement curbing. City will issue \$145,000 of bonds for paving and drainage. (See "Machinery Wanted.")

Richmond, Va.—City contemplates repaving Main street, expending about \$9331; Charles E. Bolling, City Engineer.

Rockville, Md.—Montgomery County Commissioners, Potomac District, contemplate issuing \$20,000 bonds to construct five-mile plike from Potomac to Conduit road.

San Antonio, Texas.—City will receive bids for paving Houston street from Nacogdoches street to Santa Rosa avenue. Address The Mayor. (See "Machinery Wanted.")

Sapulpa, Okla.—City purposed to issue bonds for street paving. Address The Mayor.

Temple, Texas.—City will construct street paving mentioned in April; Wm. Ginnuth, Mayor.

Tulsa, Okla.—City awarded contract to Stuckey Construction Co., Tulsa, for paving two and one-half blocks on East 1st street with brick at \$2.12 per square yard.

Tulsa, Okla.—City awarded contract to New State Paving & Construction Co., Tulsa, for paving alleys in business section of city with brick concrete base, at \$2.19 per square yard; contract also awarded to same company for paving South Main and 12th streets at \$1.40 per square yard.

Van Buren, Ark.—Improvement District No. 1 contemplates expenditure of \$25,000 on Main-street paving, for which T. A. Bayley, Ft. Smith, Ark., was recently noted to be

preparing plans and specifications; about eight blocks paving, two-course brick on sand foundations.

Washington, D. C.—Contract will be awarded July 11 for paving various streets and avenues with sheet asphalt and asphalt and bituminous. Henry B. F. Macfarland, Henry L. West and Jay J. Morrow, Commissioners District of Columbia. (See "Machinery Wanted.")

Welch, W. Va.—City will vote on bond issue of \$25,000 for street paving and sewer construction. Address The Mayor.

SEWER CONSTRUCTION

Bennettsville, S. C.—City will soon construct sewers, for which bond issue was recently noted. Bandy & Myers, Greensboro, N. C., have made plans and are in charge of construction. (See "Water-Works.")

Charleston, W. Va.—City will vote July 9 on issuance of \$300,000 of bonds to sewer and make other improvements to streets; J. A. Holly, Mayor. (See "Road and Street Improvements.")

College Park, Ga.—City contemplates issuance of sewer construction bonds. Address The Mayor.

Dayton, Station Newport, Ky.—City will construct three trunk sewers; six-foot sewer on Main street, 2200 feet long; four-foot sewer on McKinney street, 2300 feet long, and four-foot sewer on Vine street, 2400 feet long; G. W. Lindsey, 4th and York streets, Newport, Ky., engineer in charge.

Durant, Okla.—City awarded contract for sewer construction; cost \$20,000; A. C. Haden, Mayor. (Mentioned in May.)

East Lake, Station Birmingham, Ala.—City will expend \$40,000 for sewer system. Address The Mayor.

East Point, Ga.—City will vote on issuance of \$20,000 bonds for sewer system. Address The Mayor.

Fitzgerald, Ga.—City will vote June 24 on issuance of \$75,000 sewer bonds. Address The Mayor.

Knoxville, Tenn.—City awarded contract to John L. O'Connor of Knoxville at \$11,820 for construction extension, about 7000 feet long, to First creek sewer main; 18, 15 and 12-inch vitrified pipe will be used, except in few points where cast-iron piping is considered necessary; S. D. Newton, City Engineer.

Mobile, Ala.—Board of Public Works, Stewart Brooks, president, will open bids July 13 for constructing storm sewers. (See "Machinery Wanted.")

Newport, Ark.—City contemplates establishment of sewer system. Address The Mayor.

Orange, Texas.—City will expend \$20,000 on construction of five to six miles of sanitary sewers and pumping station, contract for which was recently noted awarded to H. W. Cardwell of Orange, Texas, and Mena, Ark. (See "Machinery Wanted.")

San Antonio, Texas.—Galveston, Harrisburg & San Antonio Railway, D. K. Colburn, bridge engineer, Houston, Texas, will construct storm-water sewers in connection with subways; bids will be opened July 1. (See "Machinery Wanted.")

Springfield, Mo.—City contemplates establishment of storm-sewer system; committee and City Engineer will make preliminary plans, estimates of cost, etc.; Geo. W. Culver, chairman of committee; Harry Horton, City Engineer.

Welch, W. Va.—City will vote on issuance of \$5,000 of bonds for sewer construction and street paving. Address The Mayor.

TELEPHONE SYSTEMS

Bighart, Okla.—Bighart Telephone Co. incorporated by D. J. Dunham, J. L. Cosden, J. D. Mandeville and T. E. Gibson.

Catoosa, Okla.—Bridges Telephone Co. incorporated; J. C. Smith, president; J. M. Adkinson, secretary.

Catoosa, Okla.—Bridges Telephone Co. incorporated by J. C. Smith, J. M. Adkinson, R. B. Downey and others.

Clarendon, Texas.—Luzon Telephone Co. incorporated with \$25,000 capital stock by S. A. McCombs, T. G. Harkey and J. M. Kelley.

Ducktown, Tenn.—Mine City Telephone Co. incorporated with J. M. Kilpatrick, Carl Center, C. M. Campbell and others to construct telephone line from Ducktown to Copper Hill and other points in Polk county.

Lexington, Tenn.—C. G. Gathings, E. L. Fesmire, W. W. Sweat and others are promoting installation of Home Telephone Exchange to cost \$2600.

McMinnville, Tenn.—Citizens' Telephone Co. incorporated with \$5000 capital stock by

Jesse Walling, Butler Smith, J. M. Lively and others.

Rutherfordton, N. C.—Green River Telephone Co. incorporated with \$10,000 capital stock by John C. Mills, Poe W. Eskridge and E. B. Quinn; to operate telephone from Rutherfordton to Green River, N. C.

Viola, Tenn.—Viola Telephone Co. incorporated; E. W. Smartt, president; L. E. Ramsey, general manager.

TEXTILE MILLS

Ashburn, Ga.—Cotton Cloth.—Shingler Cotton Mills, J. S. Shingler, president, will not arrange to organize and build this year; expects to complete arrangements in 1909; company previously reported as proposed, intending to build for 10,000 spindles and 300 looms.

Charlotte, N. C.—Cotton Yarns.—Sargent Cotton Manufacturing Co. is, as reported last week, planning to build mill of 3000 spindles for manufacturing 60s to 80s yarns. Summer B. Sargent is secretary-treasurer.

Charlotte, N. C.—Cotton Yarns.—Jewel Cotton Mills has organized, as reported recently, and is capitalized at \$250,000; will build structure for 12,000 spindles, but install 6000 spindles at first; to manufacture 60s two-ply to 100s two-ply combed yarn for mercerizing; T. J. Lillard, secretary-treasurer.

Childersburg, Ala.—Fine Yarns.—Coosa River Spinning Co. is reported as having awarded contract for machinery for 10,000-spindle plant, previously detailed. Fred S. Hinds, 19 Milk street, Boston, Mass., is company's architect-engineer.

Flat Rock, N. C.—Knit Hosiery.—Skyland Hosiery Co. recently completed plant previously detailed; has 200 latch needle knitting machines, 50 ribbers, 40 loopers, etc.; product, seamless cotton and lisle whole and half hose; capital stock \$150,000.

Galveston, Texas.—Bagging.—Business League is promoting the establishment of bagging mill.

Henderson, N. C.—Fine Yarns.—Harriett Cotton Mills will not build another mill, as recent report stated; has completed No. 2 mill, designed for 12,000 spindles, but has not purchased the machinery nor decided when to do so; will not increase capital at present.

Hope Mills, N. C.—Cotton Cloth.—Hope Mills Manufacturing Co. will discontinue finishing department and install looms, as stated recently, but these changes involve no additions to present equipment.

St. Pauls, N. C.—Cotton Yarns.—St. Pauls Cotton Mill Co. will begin erection in July of proposed mill building; will install 5000 spindles for manufacturing yarns; will use electricity for power. A. R. McEachern is secretary-treasurer. R. C. Bibberstein of Charlotte, N. C., is architect-engineer in charge. (Previously reported organized, etc.)

Union, S. C.—Cotton Cloth.—Union-Buffalo Mills Co. has awarded contract to Draper Company of Hopedale, Mass., for 2000 looms to replace old looms.

WATER-WORKS

Baltimore, Md.—Board of Awards, City Hall, has awarded contract to Lane Bros. & Jones, T. Barton Jones, resident partner, 811 Fidelity Building, Baltimore, for construction of 225,000,000-gallon reservoir at \$494,810; to C. B. Clark & Co., 10 East Lexington street, Baltimore, for construction of diversion sewer in connection with reservoir at \$33,572. This work includes following approximate quantities: Excavation from basin, 67,000 cubic yards; excavation cut-off wall trench, 22,000 cubic yards; rolled embankment, 282,000 cubic yards; rolled or puddled clay in trench, 9000 cubic yards; waste, 100,000 cubic yards; reinforced concrete cut-off wall, 3000 cubic yards; topsoil, spread, rolled and seeded, 75,000 square yards; 48-inch reinforced concrete conduits, 1010 linear feet; slope paving, 23,000 square yards; gatehouse substructure and gate vault. Diversion sewer: 60-inch and 69-inch concrete diversion sewer, 2100 linear feet, and 18-inch vitrified pipe drain, 350 linear feet. Reservoir is to be completed in 400 days and sewer in 200 days. All work under supervision of Alfred M. Quick, Water Engineer, City Hall. (Recently mentioned.)

Barbourville, Ky.—Barbourville Water-Works Co. organized to install water plant; plans completed; construction to begin soon. F. D. Sampson, County Judge, Barbourville, may be addressed. (See "Machinery Wanted.")

Bennettsville, S. C.—City will soon begin construction of water-works; plans by Bandy & Myers, Greensboro, N. C., engineers in charge of construction. (Recently noted

bond issue of \$70,000 for water-works, sewer and streets.)

Bristow, Okla.—City will vote July 6 on issuance of \$35,000 of bonds to construct water-works. It is also planned to install electric-light plant. Address The Mayor.

College Park, Ga.—City contemplates issuance of water-works bonds. Address The Mayor.

Durant, Okla.—City awarded contract for proposed water-works extension; cost \$15,000; A. C. Haden, Mayor.

Durham, N. C.—Suburban Land & Power Co. incorporated with \$40,000 capital stock; contemplates building water plant. E. J. Parrish is president. (See "Electric Light and Power Plants.")

East Point, Ga.—City will vote on issuance of \$50,000 bonds for water-works. Address The Mayor.

Fitzgerald, Ga.—City will vote June 24 on \$25,000 bond issue to extend water-works and electric-light system. Address The Mayor.

Gadsden, Ala.—City Council has rescinded action calling for election to vote on bond issue to purchase or rebuild water-works. Election will be held July 20 to determine levying of tax to provide for \$100,000 bond issue previously authorized. Address The Mayor.

Gibson, Ga.—City is prepared to receive proposals for drilling artesian well and constructing water-works. Address J. W. Whitley or Thomas A. Walden, clerk Superior Court, Clatscock county. (See "Machinery Wanted.")

Hundred, W. Va.—Town voted \$8000 bond issue for installation of water-works; A. S. Bell, No. 7 City Bank Building, Wheeling, W. Va., engineer in charge. (See "Machinery Wanted.")

Lagrange, Ga.—Lagrange Water Co., C. W. Corless, superintendent, is considering erection of 3,000,000-gallon reservoir.

Milltown, Ga.—City, recently mentioned as considering construction of water-works, will lay six or eight-inch piping to provide fire protection. Install gasoline engine, build tower and tank, etc.; J. V. Talley, Mayor. (See "Machinery Wanted.")

Nowata, Okla.—City has voted \$65,000 of bonds to construct water-works. Address The Mayor.

Paris, Texas.—City contemplates improvements in water-works; may install new pumping system at lake, six and one-half miles distant from city; may also install filter; Ed H. McCuliston, Mayor. (See "Machinery Wanted.")

Salisaw, Okla.—O'Neill Engineering Co., Dallas, Texas, may be addressed for information relative to water-works, for which bonds were recently noted voted.

Sapulpa, Okla.—City proposes to issue \$35,000 of bonds for extending water system and \$10,000 for equipping fire department; street paving is also contemplated. Address The Mayor.

Tulsa, Okla.—City Council is preparing to advertise for bids for extending water-works. (City recently mentioned as having voted \$25,000 of bonds to purchase and improve water-works.) Address The Mayor.

Welch, W. Va.—Welch Water Co. is planning to increase size of water mains from 6-inch to 10-inch.

Wetumka, Okla.—City has voted \$25,000 of bonds to construct water and light plant. Address The Mayor.

WOODWORKING PLANTS

Barnwell, Ala.—Excelsior.—Excelsior-Coast Manufacturing Co. recently reported incorporated, will manufacture excelsior—about 10 tons daily; is now erecting buildings costing \$3000, and machinery will cost \$8000; buildings include main structure 32x35 feet, sheds 30x10 feet, wareroom 30x60 feet, boiler-room 25x30 feet, wharf 300 feet long; T. G. Bush, president; J. W. Johnson, vice-president; Thos. Hamilton, secretary-treasurer.

Biggers, Ark.—Veneering.—George Shults and W. A. Pearce of Doniphan, Mo., contemplate the establishment of veneering plant at Biggers.

Bonita, Miss.—Handles, etc.—Millbrook Lumber Co., recently incorporated by S. A. Neville and others, is erecting stock mill on 80-acre location; will produce wagon and chair stock, etc.; may add handle manufacturing.

Branson, Mo.—Spokes.—Winch Spoke Co., recently reported incorporated, will establish plant to manufacture wagon and carriage spokes; capacity 6000 finished spokes daily; will erect one-story frame main building, 40x120 feet, and stone engine and boiler room, 40x40 feet; cost of building \$3000; cost of machinery \$6000; W. E. Winch, manager; materials and supplies purchased.

Fort Smith, Ark.—Vehicles.—Lester-Sicard Vehicle Co. incorporated with \$5000 capital stock by L. G. Sicard, R. A. Lester, Mrs. Nell Lester and George F. Storms.

Fort Worth, Texas.—Trunks.—W. M. Hoover Trunk Manufacturing Co. organized with \$30,000 capital stock; offices, 111 Houston street.

Gurdon, Ark.—Boxes.—N. P. O'Neal and associates contemplate organization of company to establish box factory; prepared to correspond with experienced manager desiring to become interested.

Jackson, Miss.—Furniture.—Heidelberg Furniture Co. recently reported incorporated, succeeds Heidelberg Bros., retail furniture dealers; will not manufacture.

Knoxville, Tenn.—Doors, Sash, etc.—Southern Manufacturing Co. recently reported incorporated (under "Miscellaneous Manufacturing Plants"), has rented building and will manufacture veneered oak doors, house trimmings, sash, doors and blinds; president, Robert Vestal; D. W. Boles, vice-president; W. P. Lawson, secretary-treasurer.

Lebanon, Tenn.—Eagle Pencil Co. of New York, N. Y., has, it is reported, purchased and will develop tract of cedar containing 54½ acres.

Louisville, Ky.—Mantels, Stairways, etc.—Boggs, Belcher & Sullivan Company, recently mentioned, will erect building 100x200 feet; will manufacture mantels, stairways, posts, chicken coops and building materials; managing officers, J. D. Belcher and M. L. Boggs.

New Orleans, La.—Boxes—Republic Box Co. (owned by Sea Gull Specialty Co., New Orleans, La., and Baltimore, Md.), C. N. Duby, manager, will enlarge plant.

Norfolk, Va.—Barrels, Boxes, etc.—Farmers' Manufacturing Co., T. J. East, general manager, will rebuild crate and barrel plant reported burned; new structure will be larger than one destroyed and will cost about \$70,000. Storage sheds will also be erected.

Paragould, Ark.—Handles.—Paragould Hand Co. has increased capital stock from \$5000 to \$12,000 and elected T. C. Scott president.

Petersburg, Va.—Boxes.—Kress Box Co. incorporated with \$50,000 capital stock; F. H. Kress, president; J. C. Robinson, secretary; L. A. Eger, treasurer; all of Pittsburgh, Pa.

St. Paul, Ark.—Staves.—McCoy-Ritchie Lumber Co. has organized company to establish stave factory.

Wampee, S. C.—Handles.—Kirby & Averill Manufacturing Co., operating plant for manufacture of hickory handles, etc., contemplates adding machinery to make broom and agricultural-implement handles. (See "Machinery Wanted.")

BURNED

Chattanooga, Tenn.—Schram & Baker's department store; loss about \$20,000.

Cornishville, Ky.—O. H. Debaum's flour mill; loss about \$13,000.

Divide, W. Va.—Campbell Bros. store; loss about \$25,000.

Ellisville, Miss.—Ellisville Lumber Co.'s plant, recently incorrectly noted to have been burned, was not damaged.

Fordyce, Ark.—Plant of Tri-County Advocate, Smith Bros., proprietors; loss about \$7000.

Greenville, S. C.—H. H. Baker's store; loss about \$18,000.

Hollins, Ala.—Kaul Lumber Co.'s plant and about 6,000,000 feet of lumber; loss about \$500,000.

Naples, Texas.—Carroll Hess' merchandise store, loss \$4000; business buildings owned by C. F. Floyd and J. H. Matthews; loss about \$10,000.

Norfolk, Va.—Farmers' Manufacturing Co.'s crate and barrel plant; loss about \$100,000.

Quitman, Miss.—Twenty cottages owned by Mississippi Lumber Co.; loss about \$10,000.

Richmond, Va.—Richmond Stove Co.'s plant; loss about \$200,000; W. J. Anderson, president.

San Angelo, Texas.—Western Hotel, owned by N. B. Steph; loss \$4000.

Tioga, Texas.—Tioga Grain Elevator.

BUILDING NOTES

APARTMENT-HOUSES

Barnesville, Ga.—W. B. Smith will erect apartment-house to cost \$10,000; contract awarded.

New Orleans, La.—Casa Grande Apartment Co. incorporated with \$85,000 capital stock by Leo Aschaffenburg, Arthur H. Kussmann and Albert Aschaffenburg.

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MANUFACTURERS' RECORD.

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St. Louis, Mo.—Walter J. Holbrook, president Holbrook-Blackwelder Real Estate Co., is negotiating for sale of lot 313x296 feet, at about \$50,000, for New Haven Investment Co., owner. It is reported that tentative plans have been prepared for apartment-house to be erected on site, calling for structure of six stories and basement; exterior finish of gray paving brick; cut-stone and terra-cotta trimmings; about 50 apartments, each to have separate marble entrance; heating and lighting plant in basement; cost about \$50,000.

St. Louis, Mo.—Delmar Realty Co., John Moore, president, is having plans prepared by Charles H. Detering, St. Louis, to erect three-story apartment-house; brick and terra-cotta; to contain 30 apartments of five rooms each; cost \$125,000.

BANK AND OFFICE BUILDINGS

Baltimore, Md.—Citizens' National Bank, Wm. H. O'Connell, president, Pratt and Hanover streets, awarded contract to J. Henry Miller, 110-112 Dover street, Baltimore, at \$16,500, to erect addition to building; two stories; reinforced concrete, marble and brick; 40 feet square; fireproof; plans by Otto G. Simonson, American Building, Baltimore. (Recently mentioned.)

Birmingham, Ala.—Warren & Welton, Title Guarantee Building, Birmingham, are preparing plans for Birmingham Chamber of Commerce building; to be 100x100 feet; reinforced concrete; electric and gas lighting; electric elevators; cost \$120,000; date of opening bids not decided pending completion of plans. (Mentioned last week.)

Charles Town, W. Va.—Jefferson Construction Co., W. O. Norris, president and manager, will erect store and office building after plans by A. B. Mullett & Co., Union Trust Building, Washington, D. C.; store on first floor, offices above; 35x55 feet; fireproof; steam heat; gas and electric lighting. (See "Machinery Wanted.")

Chatom, Ala.—Granade & Granade, Chatom, will not award contract until January 1, 1909, for erection of two-story bank and office building recently mentioned; 42x52 feet; concrete block; cost \$5000.

Greensboro, N. C.—Greensboro National Bank will remodel bank building.

Jacksonville, Fla.—W. A. Bishaw awarded contract to W. T. Hadlow Company, Jacksonville, for erection of office building recently fully described; 10 stories; reinforced concrete; two elevators; vacuum cleaning, etc.; reinforced concrete contract awarded to Southern Ferro-Concrete Co., Atlanta, Ga.; cost of building, \$100,000.

Jennings, La.—Houssiere-Latreille Oil Co. is having plans prepared by I. C. Carter, Rigmalden Building, Lake Charles, La., for building recently mentioned; pressed brick; stone and marble trimmings; three stories, 41x9 feet; opera-house on first floor with seating capacity of from 600 to 800; offices on second floor, and lodgerooms on third floor; plans will be submitted to contractors about July 1.

St. Louis, Mo.—Vandeveenter Trust Co. is having plans prepared for erection of office building; 35x80 feet; three stories and basement; interior marble and bronze; cost \$50,000.

Washington, D. C.—C. C. Calhoun of Calhoun & Sizer, Colorado Building, is having plans prepared by Frank P. Milburn & Co., Home Life Building, Washington, for five-story office building on G street.

Washington, D. C.—Dime Savings Bank, Ouray Building, 5th and G streets N. W., will have plans prepared by Frank P. Milburn, Home Life Building, Washington, for bank building.

Washington, D. C.—Baltimore & Ohio Railroad Co. has submitted plans for proposed yardmaster's office building at Washington to following contractors: J. J. Walsh & Son, 1525 Maryland avenue; Edward Brady & Son, Cathedral and Howard streets; Henry Smith & Sons Company, 116-120 South Regester street; John Waters, 23 East Center street; Edward Watters & Co., 532 St. Paul street, all of Baltimore, Md.; Richardson & Burgess, 613 Colorado Building, Washington; Burchett & Bros. Company, Pittsburgh, Pa.; Royal House, Arey & Co., Philadelphia, Pa.

Weatherford, Okla.—German National Bank will, it is reported, erect office building.

CHURCHES

Baltimore, Md.—Baltimore Baptist Church Extension Society, care of Wm. E. Hatcher, 3035 Wallbrook avenue, Wallbrook, will erect church corner Orem Park place and Pennsylvania avenue; 61x44 feet; stone and unique brick. Plans have been prepared by

Edward H. Glidden, 4 Glenn Building, Baltimore. Contractors estimating are A. Knell, Jr., 215 Courtland street; Jefferson Walsh, 1525 Maryland avenue; John Hiltz & Sons Company, 3 Clay street; Edward Watters & Co., 532 St. Paul street; John T. Buckley, 916 Bolton street, all of Baltimore. Birmingham, Ala.—Temple Emanuel congregation has not yet made definite plans for construction of temple recently mentioned; S. Spiro, chairman of committee.

Chattanooga, Tenn.—Highland Park M. E. Church will open bids August 1 for erection of brick edifice recently mentioned; cost \$20,000; plans by R. H. Hunt, James Building, Chattanooga; S. D. Tuttle, pastor, 605 Bailey avenue; building to be only partially completed at present.

Chattanooga, Tenn.—Highland Park M. E. Church, Souta, will soon let contract for "enclosure" of new church building; pressed brick walls; stone and terra-cotta trimmings; slate and copper roof; T. A. Chambers & Son, 813 Henderson avenue, lowest bidders; cost \$12,000; foundation completed; E. E. Wiley, pastor, 309 Bailey avenue; architects, Bearden & Foreman, Chamberlain Building, Chattanooga.

Greenville, S. C.—Second Presbyterian Church will erect edifice and manse; plans not made; architect not selected; pastor, E. P. Davis.

Lake Charles, La.—Presbyterian congregation will postpone erection of edifice recently noted; plans by Drago & Smith, New Orleans, La.

Lancaster, S. C.—Methodist Episcopal Church has not yet awarded contract for erection of proposed edifice; plans by J. M. McMichael, Charlotte, N. C.; cost \$10,000.

Lumberton, N. C.—Baptist congregation will erect edifice. Address The Pastor, Baptist Church.

Meridian, Miss.—First Baptist congregation will expend \$10,000 in improvements to contract. C. H. Dabbs, Meridian, has received contract.

Mobile, Ala.—St. Francis Street Baptist Church, Rev. W. J. E. Cox, pastor, will soon award contract for erection of edifice recently mentioned; two stories; 90x175 feet; Greek design, with six Ionic columns supporting portico; stone; Sunday-school room to be three stories, including basement; cost about \$78,000; plans by R. H. Hunt, Chattanooga, Tenn., have been accepted, and Mr. Hunt will supervise construction; G. R. Thamess, chairman building committee.

Norfolk, Va.—Building committee, Bank Street Baptist Church, 552 Bute street, will receive bids until July 6 for alteration and addition to edifice; also for two-story brick parsonage; separate bids to be submitted for church and parsonage; plans and specifications can be obtained at office of Ferguson & Chandler, architects, 20 Bank street, Norfolk; bond for 50 per cent. of contract price. Thomas S. Bagnall, chairman; Matthew R. Jackson and James E. Fuller, building committee.

Norfolk, Va.—Building committee, Bank Street Baptist Church, 552 Bute street, will receive bids until July 6 for alteration and addition to edifice; also for two-story brick parsonage; separate bids to be submitted for church and parsonage; plans and specifications can be obtained at office of Ferguson & Chandler, architects, 20 Bank street, Norfolk; bond for 50 per cent. of contract price. Thomas S. Bagnall, chairman; Matthew R. Jackson and James E. Fuller, building committee.

Opelousas, La.—Bids will be opened July 14 for erection of edifice for St. Landry's Catholic Church, according to plans and specifications by Diboll, Owen & Goldstein, Ltd., Perrin Building, New Orleans, La.; certified check for \$500; bond for one-half amount of contract; plans and specifications at office of architects.

Rice, Texas.—Hayne Memorial M. E. Church, South, recently mentioned, will be erected at cost of \$13,000 to \$15,000; ordinary construction; 50x90 feet; hot-air heating; acetylene-gas lighting; bids to be opened July 1; plans by J. E. Flanders, Dallas, Texas; A. C. Hervey, Rice, secretary building committee.

Shelbyville, Tenn.—Ray & Stegal, contractors, Shelbyville, have begun construction of edifice for Baptist congregation to cost \$12,000. (Previously mentioned.)

Stamford, Texas.—Baptist congregation will erect edifice to cost \$25,000; plans adopted and contract awarded. Address The Pastor, Baptist Church.

Stamford, Texas.—Christian congregation will erect edifice. Address The Pastor, Christian Church.

Stamford, Texas.—Methodist congregation will erect edifice. Address The Pastor, Methodist Church.

Waynesboro, Va.—Presbyterian congregation will award contract July 15 for erection of edifice recently mentioned; plans by R. G. Vance, Waynesboro, who is also chairman building committee; colonial style building; 131x82 feet; brick; tin roof; steam heat; electric lighting; cost \$15,000. (See "Machinery Wanted.")

Westernport, Md.—Baptist congregation is contemplating, it is reported, erection of edifice. Address The Pastor, Baptist Church.

COURTHOUSES

Bristol, Va.—John H. Gose, City Clerk, will receive bids until July 16 for erection of city hall and courthouse recently mentioned; building to cost approximately \$50,000; plans by Stone Bros., New Orleans, La.

Cordell, Okla.—Campbell & Campbell, Oklahoma City, Okla., have contract at \$139,400 to erect courthouse for Washita county.

Lumberton, N. C.—B. MacKenzie, Greenboro, N. C., has contract for complete installation of heating plant in Lumberton courthouse; plans and specifications by Frank P. Milburn & Co., Home Life Building, Washington, D. C. (Noted in April.)

Mobile, Ala.—Mobile county awarded contract to Interstate Construction Co., Mobile, for exterior repairs to courthouse; cost \$7500; plans by R. Benz & Sons, Mobile.

New Albany, Miss.—Union county courthouse, contract for which was recently noted awarded to F. M. Dobson & Co., Montgomery, Ala., will cost, completed, \$75,000; plans by Dobson & Co.; two-story building; 6x120 feet; fireproof; steam heat; electric lighting (See "Machinery Wanted.")

Stanton, Texas.—Bids will be opened June 27 to erect courthouse; three stories and basement; brick and stone; plans and specifications at office of architect, Sam P. Herbert, First National Bank Building, Waco, Texas, and at office of Judge Anderson, Stanton; certified check \$500; separate bids for heating. (See "Machinery Wanted.")

Tuscumbia, Ala.—Colbert County Commissioners adopted plans by Bearden & Foreman, architects, Chattanooga, Tenn., for remodeling courthouse, calling for four additional rooms, heating, lighting, plumbing, etc.; estimated cost, \$28,000. (Recently mentioned.)

Washington, D. C.—Charles J. Bonaparte, Attorney-General, has approved plans for District Court of Appeals building, for which Congress has appropriated \$200,000. Elliott Woods has drawings nearly completed, calling for structure of brick fireproof construction; white cement stucco finishing; 98x125 feet; courtroom on second floor, 40x75 feet; public lobby, 25x60 feet; building will be detached about 60 feet from west wing of old courthouse, with which it will be connected by colonial pergola, and will be of similar architecture. Paul J. Pelz, Corcoran Building, Washington, has been retained as consulting architect. Bids will soon be invited.

DWELLINGS

Baltimore, Md.—H. A. Thoman, 27 Kenwood avenue, awarded contract to W. McDaniel, Belair road, for erection of \$8000 dwelling recently mentioned; concrete block; hot-air heat; electric and gas lighting; plans by Wm. C. Schnabel, 2226 East Biddle street.

Baltimore, Md.—George Mohr of George Mohr & Son, 624-626 West Lexington street will erect \$10,000 residence at Mount Washington Heights.

Baltimore, Md.—Luzerne Land Co. awarded contract to Frank Novak of Novak & Hart, 2800 Jefferson street, Baltimore, for erection of 22 two-story dwellings on Lakewood avenue to cost \$30,000.

Baltimore, Md.—Joseph T. White, 2033 Guilford avenue, has had plans prepared by F. E. Beale, 213 St. Paul street, Baltimore, for 20 dwellings on Potomac and Hare streets; two stories, 11x16 feet.

Baltimore, Md.—William Grosup, St. Paul and 26th streets, is having plans prepared by Jacob F. Gerwig, Vansant Building, 210 East Lexington street, Baltimore, for 24 dwellings on Fayette street; two stories, 11x15 feet; cost about \$30,000.

Baltimore, Md.—Fred B. Eisenbrandt, foot of Marshall avenue, will erect residence on Anchentoroly terrace, to cost about \$12,000.

Big Stone Gap, Va.—H. E. Fox will erect residence.

Birmingham, Ala.—T. H. Johnson will erect \$5000 residence; ordinary construction; hot-air heating; electric lighting; plans by Warren & Welton, Title Guarantee Building, Birmingham.

Charleston, W. Va.—Dr. M. P. Malcolm of Hugheston, W. Va., will erect brick residence.

Dunedin, Fla.—B. O. Quarles Van Ufford awarded contract to Chase & Lindsey, Pensacola, Fla., for erection of residence; two stories; mission style, stucco finish; plans by Bonnwell & Son, St. Petersburg, Fla. (Recently mentioned.)

Gainesville, Texas.—W. A. Roper will erect residence.

Greenville, S. C.—Second Presbyterian congregation will erect manse for pastor; plans not made; architect not selected; E. P. Davis, pastor. (See "Churches.")

Jackson, Miss.—Capitol Commission awarded contracts to John F. Barnes & Co., Jackson, at \$17,929 for erection of brick addition and remodeling residence of E. F. Noel, Governor; John F. Houchin, Jackson, for concrete walks and general concrete work; D. O. Bowles & Co., Jackson, for grading, and Jackson Plumbing Co., Jackson, for plumbing. (Mentioned in April.)

Montgomery County N. C.—Rev. Oscar Haywood's residence, recently noted, will be of frame; cost \$10,000; electric-lighting plant with gasoline engine will be installed; plans by Edgar T. Love, Huntsville, Ala.

Nashville, Tenn.—J. Eskin awarded contract to E. & N. Manufacturing Co., Nashville, Tenn., for erection of residence; 10 rooms; brick; first floor finished in solid mahogany, upper floor in quarter-sawed oak.

Norfolk, Va.—L. P. Roberts, Jr., awarded contract to George T. Banks, Norfolk, to erect \$5000 residence.

Norfolk, Va.—S. H. Wertheimer, Newport News, Va., has had plans prepared by Benjamin F. Mitchell, Norfolk, for \$10,000 residence.

Norfolk, Va.—Bank Street Baptist Church will erect two-story, brick parsonage; bids will be opened July 6; Thomas S. Bagwell, chairman building committee. (See "Churches.")

Norfolk, Va.—L. Shefskey awarded contract to J. Johnston, Norfolk, for erection of two double brick dwellings to cost \$10,000.

Richmond, Va.—J. B. Elam will erect number of dwellings.

San Antonio, Texas.—Mrs. Cora Davenport has had plans prepared by J. Flood Walker, Moore Building, San Antonio, for residence; exterior to be finished in stucco; interior to contain burlap panels and decorative frieze.

St. Louis, Mo.—Wm. A. Hirsch awarded contract to Godfrey & Hirsch, Walwright Building, St. Louis, for erection of proposed residence; brick building; stone trimmings; 55x38 feet; vacuum steam heat; cost \$10,900; plans by Helfensteller, Hirsch & Watson, 101 Chemical Building, St. Louis.

Tampa, Fla.—Homer Hayden awarded contract to E. H. Kratz, Tampa, for erection of two-story frame dwelling.

Washington, D. C.—Mildbaugh & Shannon, 2405 1st street N. W., have purchased 341 feet of ground on Newton place, in Steiger's Subdivision, and will erect a number of brick residences.

Washington, D. C.—John M. Henderson, 1418 1st street N. W., has had plans prepared by Albert M. Schneider, 718 14th street N. W., Washington, for three dwellings; three stories; brick; cost about \$500 each.

Washington, D. C.—Mary Pinchot awarded contract to C. Langley, 310 12th street N. W., Washington, to make changes and repairs to residence to cost about \$10,000.

Washington, D. C.—Frank H. Rauschett awarded contract to M. H. Herriman, 51 Bryant street, Washington, for erection of residence; two stories; frame; approximate cost \$5575; plans by Albert H. Beers, 1333 G street N. W., Washington.

Washington, D. C.—George Menke awarded contract to Peter Fersinger, 1 N street N. W., Washington, to erect dwelling at 511 Massachusetts avenue N. W.; two stories; brick; approximate cost \$7000; plans by J. Wenig, 1223 F street N. W., Washington.

Washington, D. C.—Harry Wardman, 1333 G street N. W., has had plans prepared by A. H. Beers, 1333 G street N. W., Washington, for 15 dwellings at 24 to 38 Garfield street; two stories; brick and frame; approximate cost \$90,000.

Washington, D. C.—Lewis E. Breuninger, 18th street and Park road N. W., has had plans prepared by N. R. Grimm, 607 F street N. W., Washington, for two three-story brick and frame dwellings at 69 to 71 Park road, to cost about \$6000 each; construction by Mr. Grimm.

HOTELS

Big Stone Gap, Va.—Home Building Co., J. W. Kelly, president, awarded contract to D. J. Phillips, Newport News, Va., for erection of hotel previously mentioned; three stories; fireproof; cost \$50,000.

Brownsville, Texas.—F. J. Combe, Francesco Yturria, William Kelly, and others are interested in organization of company to erect \$200,000 hotel.

Hamburg, Ark.—Hamburg Improvement Co. incorporated with \$20,000 capital stock by W. A. Harbison, A. J. Cone, J. H. Pryor, Henry Stilwell and others.

Houston, Texas.—Frank A. Hervey, Jr., proprietor Bristol Hotel, has completed negotiations for addition to structure; fireproof; reinforced concrete; between six and eight stories high; 55x100 feet, making an

tire building 155x100 feet; elevator; 90 bedrooms, 45 of which will be provided with baths; all rooms will have stationary washstands, supplied with hot and cold water; cost about \$150,000. Improvements will also be made to present building, including enlargement and remodeling of lobby at cost of \$20,000. Two buildings will communicate on ground floor, but upper stories will be separated by air shaft for ventilation; passageway will lead from lobby to annex through front portion of dining-room.

Pensacola, Fla.—Pensacola Hotel Co. recently reported incorporated to erect hotel, will lease building for 15 years to Harvey Hotel Co. of Mobile; plans and construction to be subject to approval of latter company; preliminary plans now being prepared; as proposed, building to be fireproof; about 100x150 feet; seven or eight stories; 200 rooms; cost probably \$275,000; F. F. Blinghardt, secretary.

Tampa, Fla.—Contracts for St. Nicholas Hotel Building (mentioned in April) awarded to Friend & Gattman, Ferlite Building, Tampa, for brickwork and plastering, and to Stubbs Lumber Co., Tampa, for wood and iron work, etc.; three-story building; 78x90 feet; 50 rooms; three stores on first floor; cost \$25,000; plans by Perry Bros., Tampa.

Welch, W. Va.—Company is being organized to erect hotel; about 90 rooms; first floor to contain opera-house with seating capacity of about 1500; cost approximately \$150,000; plans by E. L. and W. L. Shufflebarger, Bluefield, W. Va.

MISCELLANEOUS STRUCTURES

Accomac, Va.—Jail.—Board of County Supervisors having plans prepared by Frank P. Milburn & Co., Home Life Building, Washington, D. C., for jail building; three stories; brick; about 42x34 feet; hot-air heating. (Mentioned in May.)

Argenta, Ark.—Business Block.—Mrs. Pat Crawford, Jr., will erect brick business block.

Atlanta, Ga.—Jail.—Sisters of Mercy, Rev. Mother M. Clare, superior, have accepted plans by A. Ten Eyck Brown, Atlanta, for proposed additions and alterations to St. Joseph's Infirmary; fireproof ward building will be erected, 150x40 feet; deep red arch brick, laid Flemish bond; concrete floors and roof; Plenum system of forced draft heating and ventilating in all wards; electric elevators; dumbwaiters; clothes chutes; hospital doors and window trim; baths; closets; present kitchen wing will be torn away and two-story fireproof building erected; in rear, connecting building between old and new wings, will be sun porch and roof garden; 75-foot shaft will be built to carry off fumes from boiler-room and kitchen; total cost of improvements about \$50,000.

Bay City, Texas.—Business Building.—Austin & Austin will open bids July 2 for erection of business building; two stories; brick; plans and specifications on file at offices of Charles S. Austin, 124 Soledad street, San Antonio, Texas; William E. Austin and J. E. Large, Bay City.

Big Stone Gap, Va.—Store Building.—Mrs. Imogene Brown will erect store and office building; two stories, 32x40 feet; brick.

Bluefield, W. Va.—Business Building.—D. W. Fulp will erect business building; three stories; press-brick front.

Burwood, La.—Buildings.—Bids will be opened July 8 for erection of several reinforced-concrete buildings at Burwood, Southwest Pass, Mississippi river, all previous bids having been rejected; Col. E. H. Ruffner, engineer in charge, United States Engineer's office, Custom-house, New Orleans, La. (Mentioned in May.)

Chattanooga, Tenn.—Store.—Mrs. Caroline Richmond awarded contract to Adams & Schneider, Chattanooga, for erection of proposed three-story brick store; ordinary construction; gas and electric lighting; cost \$5000; plans by R. H. Hunt, Chattanooga.

Charlotte, N. C.—Store Building.—Sanders & Jamison are having plans prepared by Frank P. Milburn & Co., Home Life Building, Washington, D. C., for double store building.

Chattanooga, Tenn.—Clubhouse.—Chattanooga Gas Co. will erect clubhouse containing washrooms, lockers, shower baths, etc.; part of building will be equipped with new machinery and used as blacksmith and fitting shop.

Columbus, Ga.—Store Building.—George W. Woodward has had plans prepared by Lockwood Bros., Columbus, for two-story store building.

Dallas, Texas—Home.—National Benevolent Association, James H. Mohorter, secretary, St. Louis, Mo., is planning the establishment

of home; buildings to cost probably \$25,000. Elberton, Ga.—I. G. Swift will erect two-story building to replace structure reported burned in May.

El Reno, Okla.—Clubhouse.—El Reno Country Club, incorporated by J. T. Allison and others, will erect clubhouse to cost \$10,000.

Ensley, Ala.—Store.—Pegram & Meade awarded contract to Carrigan & Lynn (care of Pegram & Meade, Birmingham) for erection of brick store building; electric lighting; cost \$7500; plans by Miller & Martin, Birmingham, Ala.

Fayetteville, W. Va.—Town Hall.—Dillon & Grose and W. B. Jones are promoting erection of town hall, 100x125 feet; stage and galleries; outside will have large balcony on front.

Fort Barrancas, Fla.—Henry Monks, Pensacola, Fla., has been awarded contract at \$11,430 for construction of bowling alley, including wiring and fixtures, and coal sheds.

Fort Worth, Texas—Postoffice and Courthouse.—Wylie Plumbing Co., Jackson, Mich., at \$5100, is lowest bidder for plumbing in postoffice and courthouse building. (Previously mentioned.)

Hawkinsville, Ga.—Business Buildings.—J. E. Laidler will, it is reported, erect block of business buildings.

Houston, Texas—Business Building.—E. L. Dennis awarded contract to local contractor for erection of three-story brick wholesale business house; 50x52 feet; ordinary construction; electric lighting; freight elevator; cost of building \$10,000; plans by F. S. Glover & Son, Houston. (Recently noted under "Apartments.")

Houston, Texas—Postoffice and Courthouse.—M. Teager & Son, Danville, Ill., at \$308,490, are lowest bidders for erection of United States postoffice and courthouse at Houston.

Marion, Va.—Temple.—Masonic Temple Association, J. G. Fry, chairman building committee, is having plans prepared by Frank P. Milburn & Co., Home Life Building, Washington, D. C., for Masonic Temple. (See "Courthouses.")

Norfolk, Va.—Business Building.—Barry estate is having plans prepared by B. F. Mitchell, Norfolk, for business building; four stories; cost \$20,000.

Norfolk, Va.—Dry Goods Store.—Harry Morris will erect addition to store building; five stories; 108x119 feet, making total frontage of both structures 209 feet; cost \$25,000.

Oklahoma City, Okla.—Business Building.—J. S. Leclercq, Paris, Texas, will not erect business building; recently incorrectly reported.

Parkersburg, W. Va.—Business Building.—Hughes & Mullen awarded contract to Taylor & Fouse, Parkersburg, to rebuild fourth floor of business block reported burned in May; improvements to cost about \$4750.

Port Arthur, Texas—Natatorium.—Port Arthur Hotel Co.'s natatorium, recently noted, will be erected at cost of \$10,000; reinforced concrete pit; wood frame; building 100x112 feet; pool 70x82 feet; electric lighting; contractor, J. E. Alexander, 221 Proctor street, Port Arthur.

Preston, Ga.—Jail.—Webster county jail, recently mentioned, will be 22x24 feet; cost about \$5000; bids to be opened July 10; Geo. E. Thornton, clerk Board of Commissioners.

Raleigh, N. C.—Hospital.—Barrett & Thompson, architects, Raleigh, will receive bids until July 6 for construction, plumbing and heating of Rex Hospital; also separate bids for frame buildings on site. Bids for construction, plumbing and heating to be accompanied by certified check of 2 per cent. of bid, payable to trustees. Hospital on pavilion plan—administration building, and medical and operating pavilions; reinforced concrete construction; vacuum steam heat; hospital elevator and dumbwaiters. (See "Machinery Wanted.")

Richmond, Va.—Library.—Capitol Improvement Commission has accepted plans by Marion J. Dimmock and Duncan Lee, Richmond, for addition to State Library building; plan calls for duplication of north wing of library; one story; extending entire length of present structure; 50x130 feet; roof to be one or two feet below present auditor's office windows, which is to have dome skylight and will also be roof garden; George F. Mundy, secretary, Capitol Building. (Mentioned in April.)

St. Louis, Mo.—Commercial Building.—Pemberton Investment Co., Zach W. Tinker, president, will erect commercial building; six to eight stories; fireproof; steel skeleton; exterior brick with terra-cotta trimmings; cost about \$200,000.

Vicksburg, Miss.—Lodge Building.—B. P. O. Elks Lodge No. 95, A. M. Paxton, secretary, American National Bank Building, awarded contract to Southern Building Co. Courier

Journal Building, Louisville, Ky., at \$57,890 for erection of Elks Club building; plans by Keenan & Weiss, Hibernia Bank Building, New Orleans, La. (Mentioned in May.)

Washington, D. C.—Business Building.—C. C. Calhoun of Calhoun & Sizer, Colorado Building, has had plans prepared by Frank P. Milburn & Co., Home Life Building, Washington, for business building at 1406 G street N. W.; five stories; ornamental pressed brick and terra-cotta front.

MUNICIPAL BUILDINGS

Americus, Ga.—Library.—Library Association, Crawford Wheatley, president, adopted tentative plans by Lockwood Bros., Columbus Investment Building, Columbus, Ga., for Carnegie Library, recently mentioned; two stories, 60x85 feet; classic design; front of white stone, with stone pediments; second floor will contain auditorium with seating capacity of about 400; steam heat, electric lighting; reported cost about \$40,000.

Augusta, Ga.—City Hall.—City has accepted plans and specifications prepared by L. F. Goodrich of Augusta, as stated in April, and will invite bids for construction; 94x184 feet; two-story structure; brick with stone trimmings; heating and lighting; vacuum-cleaning equipment; cost of building probably \$150,000. William Lyon Martin is clerk of Council.

Baltimore, Md.—Market.—P. J. Cushing, Law Building, Baltimore, has contract at \$4900 for repairing Lexington Market.

Bartlesville, Okla.—City Hall.—City contemplates voting on bond issue for erection of City Hall to cost about \$50,000. Address The Mayor.

Bristol, Va.—City Hall and Courthouse.—City will erect city hall and courthouse, for which Stone Bros., New Orleans, were recently noted to prepare plans; bids received until July 16; erection or equipment of jail also contemplated; John H. Gose, City Clerk. (See "Courthouses.")

Mobile, Ala.—City Buildings.—City contemplates erection of municipal building; plans not yet definite; Board of Public Works, Stewart Brooks, president.

Savannah, Ga.—Fire Station.—City is having plans prepared for East Side fire station. Address The Mayor.

Shawnee, Okla.—Convention Hall.—City will vote in July on issuance of \$100,000 of bonds to erect convention hall. Address The Mayor.

St. Louis, Mo.—Municipal Court Building.—Plans will be prepared by Isaac S. Taylor, St. Louis, for proposed municipal court building.

RAILWAY STATIONS

Luray, Va.—Norfolk & Western Railway Co., C. S. Churchill, chief engineer, Roanoke, Va., will rebuild depot recently reported burned at loss of \$25,000.

SCHOOLS

Agricultural College, Miss.—Mississippi Agricultural and Mechanical College has had plans prepared by R. H. Hunt, Chattanooga, Tenn., for administration and academic building; about 160x140 feet; three and four stories; brick; slate roof; stone trimmings; steam heat; electric lighting; cost \$90,000; A. J. Moore, secretary. (Mentioned in April.)

Alvin, Texas.—City contemplates issuing bonds to erect school building; 10 rooms; brick; cost about \$15,000. Address The Mayor.

Athens, Ga.—University of Georgia will erect building recently mentioned for gymnasium and Y. M. C. A. department; cost approximately \$85,000; plans not yet mature; David C. Barrow, chancellor.

Bluefield, W. Va.—Board of Education will open bids June 27 for furnishing labor, material and fully completing three school buildings; separate bids for each house; certified check for 3 per cent. amount of proposal; plans and specifications on file at office of W. E. & E. L. Shufflebarger, architects, Bluefield; E. L. Bowman, secretary.

Bluefield, W. Va.—Board of Education awarded contract to Rossi Construction Co., Bluefield, at \$38,621.34 for erection of high-school building; Peck, Anderson & Peck Heating & Ventilating Co., Cincinnati, Ohio, at \$14,280 for heating and ventilating; McKeever Electric Co., Columbus, Ohio, at \$3947 for lighting; plan by Mills & Pruitt, Columbus, Ohio, and W. E. & E. L. Shufflebarger, Bluefield. (Recently mentioned.)

Bramwell, W. Va.—Bids will be opened June 25 for grading required and construction of masonry foundation for proposed public-school building; plans and specifica-

tions on file with S. A. Toy, Freeman, W. Va.; J. C. Honaker, Montcalm, W. Va., secretary Board of Education.

Brookhaven, Miss.—City will erect eight-room two-story frame school building for negroes (recently mentioned); cost \$3500 to \$4000; competitive plans wanted, to be received by July 7; C. H. Hamilton, City Clerk.

Charleston, S. C.—City will receive competitive plans July 7 for school building; not less than six rooms, with auditorium; to cost \$20,000; furniture, sewerage, wiring for lights; heating and all necessities must be provided for; J. W. Saunders, Mayor.

Charleston, S. C.—Todd & Benson, architects, Charleston, have contract for proposed domestic science building of Memminger Normal School; to cost about \$10,000.

Clarksville, Miss.—City awarded contract to Southern Building Co., Louisville, Ky., for erection of brick school building recently mentioned; 85x120 feet; ordinary construction; steam heat; cost \$24,000; plans by P. J. Krouse, Meridian, Miss.; H. B. Heidelberg, Superintendent Schools. (See "Machinery Wanted.")

Columbia, S. C.—Columbia Theological Seminary, W. M. McPheeters, president, will expend about \$50,000 for improvements, including erection of James Henry Thornwell Memorial Chapel, fireproof library building, brick, stone and iron fence around grounds, remodeling of present buildings, installation of heating plant and laying of walks.

Conway, Ark.—City will erect \$30,000 school building. Address The Mayor. (Mentioned in April.)

Creedmoor, N. C.—City awarded contract to Creedmoor Brick & Lumber Co., Creedmoor, for erection of school building; two stories; cost \$8000; first floor to contain superintendent's office, library, etc.; second floor, six recitation-rooms and auditorium; plans by Hill C. Linthicum, Durham, N. C. (Mentioned in May.)

Deep Creek (not a postoffice), Va.—Deep Creek District Board awarded contract to W. L. Walker, Portsmouth, Va., at \$455 for erection of proposed four-room brick school building.

Dorsey (not a postoffice), Md.—Board of County School Commissioners, Annapolis, Md., will open bids July 14 for erection of school building; plans and specifications on file at home of Howard Shipley, Dorsey; Wm. S. Crisp, John Boston, J. Linton Tubbs, building committee.

Dyersburg, Tenn.—City awarded contracts for addition to public-school building recently noted to Pugh-Hathaway & McCabe, Ripley, Tenn., for brick, carpenter and tin work (general contract) at \$12,189; to Chamberlin & Patton, Dyersburg, for heating at \$2581.

East Lake, Station Birmingham, Ala.—City will issue \$15,000 of bonds for erection of school building. Address The Mayor.

Elizabeth City, N. C.—Building committee of Elizabeth City Graded Schools will open bids July 13 for construction of proposed school building; two stories high, of brick; plans and specifications can be seen at office of City Superintendent.

Elkins, W. Va.—Bids will be opened June 27 for erection of addition to Second Ward School building: (1) for addition complete; (2) complete without plumbing; (3) for the plumbing. Plans and specifications on file at office of A. C. Lyons, architect, Fairmont, W. Va., and office of W. G. Wilson, secretary Board of Education, Elkins. (See "Machinery Wanted.")

Fort Worth, Texas.—Vincentian Fathers will expend \$110,000 in establishment of Catholic college; main building to be erected at cost of \$75,000.

Gurdon, Ark.—School building recently noted will be erected at cost of \$10,000; furniture not included; two-story, eight-room, brick structure; contractor, J. J. Hawkins, Gurdon; plans by Stewart & Witt, Texarkana, Ark.; W. F. Osborne, member School Board. (See "Machinery Wanted.")

Gwynn Oak (not a postoffice), Md.—Baltimore County School Commissioners awarded contract to John Cowan, 106 West Madison street, Baltimore, Md., for erection of school building in Gwynn Oak; two stories; brick and stone.

Holly Springs, Miss.—City will erect annex to graded-school building; brick; about 50x80 feet; steam heat; cost \$6000; architect not selected. Address C. H. Cud, Holly Springs.

Jennings, La.—Bids will be opened July 8 for erection of school building and installing heating plant and plumbing; structure to be pressed brick front; 12 rooms; auditorium, 50x70 feet; superintendent's office; principal's office; library and laboratory; cost \$40,000; certified check, \$500; plans and specifications on file at office of C. H. Page, Jr., & Bro.,

architects, Austin, Texas, or at office of Dr. E. A. Lee, secretary of School Board, Jennings. (Mentioned in May. See "Machinery Wanted.")

Kansas City, Mo.—Board of Education, W. E. Benson, secretary, has not set date of opening bids for erection of four-room addition to schoolhouse recently mentioned; steam heat; cost \$30,000; architect, Chas. A. Smith, 722 Dwight Building, Kansas City; to be let to local contractor.

Macon, Ga.—Mt. de Sales Academy has had plans prepared for building; three stories; cost about \$10,000.

Martin, Tenn.—Hall-Moody Institute, M. W. Robinson, business manager, will build dormitory costing \$15,000; ordinary construction; steam-heating plant; electric-lighting fixtures; plans and specifications wanted; also want proposals for construction complete. (Mentioned recently.)

Meridian, Texas.—Bids will be opened July 6 for erection of three-story stone college building and installation of heating therein; plans and specifications on file at office of architects, C. G. Page, Jr., & Bro., Austin, Texas, or at office of J. J. Lumpkin, Meridian, Texas; certified check for \$500. (See "Machinery Wanted.")

New Orleans, La.—City awarded contract to Thomas Managan, New Orleans, at \$11,547 for proposed alterations and repairs to McDonogh School No. 23 according to plans prepared by Andry & Bendersnagle, New Orleans.

Norfolk, Va.—Deep Creek School Board of Norfolk county awarded contract to W. L. Walker, Portsmouth, Va., for erection of four-room brick school building mentioned in May; cost \$6000; plans by W. T. Zepp, Norfolk.

Ocala, Fla.—City awarded contract to McIver & MacKay, Ocala, for erecting brick school building to cost about \$8000. (Mentioned in May.)

Oologah, Okla.—City has voted \$5000 of bonds to erect school building. Address The Mayor.

Oxford, Miss.—Building committee, D. M. Kimbrough, chairman, University of Mississippi, will receive bids until July 2 for erection of dormitory and dining-hall in accordance with plans and specifications by W. E. Spink, architect, 811-12-13 Title Guarantee Building, Birmingham, Ala. Separate bids will be considered on general construction, heating, plumbing and wiring. Plans can be obtained from architect by cash deposit of \$10. (Recently mentioned. See "Machinery Wanted.")

Pontotoc, Miss.—City will erect school for which \$25,000 of bonds were recently reported to be voted; plans not made; architect not engaged; W. E. Whiteside, Mayor.

Prescott, Ark.—J. M. Tedford commenced construction of schoolhouse, for which contract was recently noted awarded; heating and plumbing contracts not let; C. C. Hamby, president School Board. (See "Machinery Wanted.")

Randallstown, Md.—Baltimore County School Commissioners awarded contract to Walter Tovel, Reisterstown, Md., for erection of proposed school building at Randallstown; one story, 60x61 feet.

Rison, Ark.—City contemplates erection of \$12,000 schoolhouse; J. M. McMurtry, Clerk.

Sale Creek, Tenn.—County Board of Education, W. S. Beck, chairman, 619 Walnut street, Chattanooga, Tenn., awarded contract to Wilbur N. Johnson, Chattanooga, Tenn., at \$16,062.25 for erection of school building; stone foundation; brick superstructure; steam heat; direct and indirect ventilation. (Mentioned in May.)

Searcy, Ark.—Special School District will erect building recently mentioned; two-story brick; 60x70 feet; hot-air heat; cost \$10,000; plans by Gibbs & Sanders, Little Rock, Ark.; bids to be opened July 1; J. A. Marsh, secretary School Board.

Teague, Texas.—City's issuance of \$25,000 of bonds for erection of school building according to plans by C. H. Page, Jr., & Bro., Austin, Texas, has been approved.

Walkertown, N. C.—County Board of Education, W. B. Spear, secretary, will open bids July 6 for erection of schoolhouse recently noted; ordinary construction; two stories; auditorium and four classrooms; cost \$5000; plans by Barrett & Thomson, Raleigh, N. C.

THEATERS

Houston, Texas.—Monte Beach, 1106 Main street, will expend \$15,000 in erection of auditorium, contract for which was recently noted awarded to E. L. Day, 814 Main street, Houston; piano by Mr. Day; frame building 64x126 feet; gas heating; electric

and gas lighting. (For further description see June 11.)

Jennings, La.—Houssiere-Latreille Oil Co. is having plans prepared by I. C. Carter, Rigmalden Building, Lake Charles, La., for building; to have opera-house on first floor with seating capacity of from 600 to 800. (See "Bank and Office Buildings.")

Tampa, Fla.—Burgert & Ratliff will build aerodrome; seating capacity 1000; to have canvas roof to roll up.

Tuscumbia, Ala.—Company recently noted to be organized by W. F. Miller to erect opera-house has not definitely decided on plans; as proposed, building will be about 65x130 feet; fireproof; steam heat; electric lighting; cost \$20,000; for theater and store building.

Wynne, Ark.—Wynne Theater Co. Incorporated with \$8000 capital stock by W. H. Barnes, Ed Brewster, T. B. Austin and others, has completed building.

WAREHOUSES

Baltimore, Md.—Maryland & Pennsylvania Railroad, J. S. Norris, general manager, Baltimore, contemplates erecting storage and hay warehouses on the Falls road. (See "Railway Shops, Terminals, Roundhouses, etc.")

Chattanooga, Tenn.—Chattanooga Gas Co. will erect warehouse and clubhouse.

Chester, S. C.—Chester County Warehouse Co. incorporated with capital stock of \$5000 by T. J. Cunningham and J. G. L. White, both of Chester, and J. S. McKeown of Cornwall.

Cockeysville, Md.—Sherwood Distilling Co., John H. Wight, president, 605 Fidelity Building, Baltimore, has awarded contract to Jacob Peters, 210 East Lexington street, Baltimore, for remodeling storage warehouse at Cockeysville; improvements to cost about \$5000.

Florence, Miss.—Farmers' Union Warehouse Co., recently reported incorporated, will probably erect \$2500 warehouse; 70x38 feet; incorporator, J. O. Parkinson, R. F. D. No. 1, Box 57, Florence.

Fort Worth, Texas.—T. B. Ellison will erect warehouse; two stories; brick; cost \$11,000.

RAILROAD CONSTRUCTION

RAILWAYS

Augusta, Ga.—An officer of the Southern Railway Co. informs the Manufacturers' Record that no surveys have been made for an extension of the Augusta Southern Railroad from Tennille to Macon, Ga. He does not know of any contemplated extension.

Ballinger, Texas.—The Ballinger & Abilene Railway Co. is considering plans to finance the road with Eastern capital and begin construction immediately; C. A. Doose, president; C. O. Harris, general attorney, and W. J. McDaniel, chief engineer, will, it is said, go to Boston to close the deal.

Brownwood, Texas.—Rumored that the Atchison, Topeka & Santa Fe Railway will resume work on its projected cut-off within a month. C. A. Morse is chief engineer at Topeka, Kan.

Cairo, Ga.—The Pelham & Havana Railway Co., according to a report quoting Z. R. Hutcheson, engineer, will begin work immediately on its proposed line from Cairo, Ga., to Havana, Fla., 23 miles. W. W. Griffin is president at Cairo.

Central City, Ky.—The Kentucky Midland Railroad, from Central City to Madisonville, Ky., 20 miles, and which may be extended, has, it is reported, changed hands, and a new company was incorporated, retaining the old name. The stockholders include Frederick Bond of Chicago, George C. Wallace, C. E. Jennings, J. C. Flournoy, Cecil Reed, W. R. Hendrick and R. B. Phillips, all of Paducah, Ky. Headquarters at Central City, with branch offices at Paducah and Chicago.

Dante, Va.—An official letter to the Manufacturers' Record denies the report that the Carolina, Clinchfield & Ohio Railway Co. is surveying for a line along Pound River. The line was surveyed a year ago, but no decision as to construction has been reached.

DeKalb, Miss.—Samuel O. Bell of DeKalb and others will, it is reported, organize the Snooty Valley Railroad Co. to build a road from Sucarnoshee, on the Mobile & Ohio Railroad, to DeKalb, 12 miles.

Durham, N. C.—The Suburban Land & Power Co. has been incorporated with \$40,000 capital, which may be increased to \$250,000, to build and operate an electric railway in and near Durham with not more than 50 miles of line. The incorporators are E. J.

Parish, J. M. M. Gregory, John Sprunt Hill, W. W. Whitted and R. W. Winston.

El Paso, Texas.—The Mesa Valley & El Paso Railroad Co. has been organized in El Paso with \$1,000,000 capital to build an electric railway from El Paso to Las Cruces, 44 miles. There are 30 incorporators, 15 in each place. J. S. Thompson of Las Cruces and R. F. Burges of El Paso are attorneys. It is reported that \$15,000 has already been subscribed. Felix Martinez is chairman of the executive committee.

El Reno, Okla.—The proposed route of the El Reno, Red River & Pacific Railway Co., recently organized with \$5,000,000 capital, is from El Reno, Okla., via Cordell and Bettina, Okla., to Wellington, Texas, and Memphis, Okla., 150 miles. H. C. Bradford is president.

Excelsior Springs, Mo.—Henry J. Arnold, Denver, Col., one of the incorporators of the Excelsior Springs & Suburban Railway Co., is reported as saying that it is building a standard gauge electric line about two and one-half miles long from Excelsior Springs to the station of the Chicago, Milwaukee & St. Paul Railway. Overhead trolley will be used; capital \$50,000. W. A. Bell of London, England, is president; W. A. J. Bell of Excelsior Springs, Mo., vice-president and purchasing agent; J. E. Lundstrom of Colorado Springs, Col., secretary and treasurer; W. P. Southard of Excelsior Springs, Mo., superintendent and electrical engineer.

Fayetteville, W. Va.—The Sewell Valley Lumber Co. is reported to be preparing right of way for its railroad along Meadow creek and Big Sewell creek to Meadow river. Fort Worth, Texas.—Stuart Harrison of Fort Worth is reported as saying that the proposed interurban electric railway from Fort Worth via Weatherford to Mineral Wells, Texas, will be built with the aid of St. Louis capitalists. It will be 70 miles long. J. D. Beardsley of Mineral Wells is said to be also interested. Charles B. Duffy of St. Louis is reported to have submitted a contract proposition. A conference of representatives of the three places to be connected was held at Weatherford, Texas.

Greenville, S. C.—John F. Rowland is president of the Asheville & Greenville Electric Railway, which, it is reported, will let contracts about August 15; line to be about 25 miles long, connecting Asheville, N. C., Hendersonville, N. C., and Greenville, S. C.; office, 301 and 302 Oates Building, Asheville, N. C.

High Point, N. C.—The Carolina Valley Railroad Co. will, it is reported, carry out its plans for an extension. M. L. Jones and E. D. Steele of High Point, N. C., and A. H. Hohl of New York are reported named as receivers.

Holden, W. Va.—The United States Coal & Oil Co. of Holden, it is reported, contemplates building a railroad along the Guyan valley to a point at or near Huntington, W. Va., and thence across the Ohio river and 50 miles further. Entire line, it is said, will be 125 miles long.

Houston, Texas.—An officer of the Yankton, Southern & Gulf Railroad Co. is quoted as saying that no decision has been reached as to when contracts will be let. Route is from Yankton, S. D., via David City, Neb.; Fairbury, Washington, Abilene, Newton, Wichita and Wellington, Kan.; Atoka, Okla.; Palestine, Groveton, Onalaska and Fostoria to Houston, Texas, 1002 miles. Fremont Hill, 422 Northern Building, Wichita, Kan., is president.

Joplin, Mo.—A movement is under way to subscribe for \$80,000 of bonds of the Joplin & Monett Interurban Railway Co., to be built between Joplin and Neosho, Mo., also reaching Spring City and Spurgeon. William S. Brawner of Joplin, Mo., is president, and John Scott & Son of St. Louis are contractors. The Commercial Club has appointed a committee.

Leesville, La.—L. F. French, chief engineer of the Alexandria, Leesville, Lufkin & Western Railway, is reported as saying that it will not be long before actual construction will begin. J. S. Moore of Lufkin, Texas, may take part of the work, which will be started between Leesville and Alexandria, La.

McDonald, W. Va.—An official letter to the Manufacturers' Record from the New River Company denies the press report that \$400,000 of bonds would be issued by the "White Oak Railway" for improvements and extensions. The bond issue proposed is to finance the White Oak Transportation Co., operating steamers between Newport News and ports in New England. Mr. S. Dixon is general manager of the New River Company.

Mangum, Okla.—Morris R. Locke, president of the Colorado, Texas & Mexico Railroad Co., is quoted as saying that it is ready to

let grading contracts in 25-mile sections. Line will be 300 miles long, from Mangum, Okla., to Abilene, Texas, with branches to Hollis, Okla., and Vernon and Markell, Texas. About 20,000 yards of earth and rock per mile is the average grading. The Colorado Construction Co. of Mangum, Okla., is general contractor. John M. Blackburn is chief engineer at the same address. The first 25 miles are to be completed by September.

McKinney, Texas.—W. C. Cole of Detroit, Mich., representing Eastern capital, has submitted an electric interurban railway plan for a line between Fort Worth and Bonham via McKinney, Blue Ridge, Leonard and other points. A local committee has been appointed, including J. L. Lovejoy, chairman, and F. B. Pope, secretary.

Memphis, Tenn.—The St. Louis & San Francisco Railroad, it is rumored, has purchased 150 acres of land near South Memphis and will build yards, and perhaps shops, J. F. Hinckley is chief engineer at St. Louis, Mo.

Mobile, Ala.—E. W. Judd of New York is reported to be investigating concerning the proposed extension of the Mobile, Jackson & Kansas City Railroad (New Orleans, Mobile & Chicago) from Middleton, Tenn., to St. Louis, Mo. L. S. Berg, 49 Wall street, New York, is president.

Monroe, N. C.—The Seaboard Air Line, it is reported, will immediately begin laying new track on the Carolina Central division from Monroe toward Charlotte. W. L. Seddon is chief engineer, Portsmouth, Va.

Mount Sterling, Ky.—J. F. Allen of Cincinnati, Ohio, proposes to incorporate the Mount Sterling, Columbia & Scottsville Railroad Co.; capital, \$2,000,000; to connect the points named by a line 150 miles long. An agreement is reported closed with local business men to insure the building of the line.

Muskogee, Okla.—The Missouri, Oklahoma & Gulf Railroad Co., it is reported, will immediately begin construction of its extension from Lamar, Okla., to Calvin, Okla., grading contract having been let. P. Dewar is vice-president and treasurer at Muskogee.

Oakland, Md.—H. P. Tasker, general manager of the Youghiogheny Light & Power Co., is reported as saying that it is intended to soon begin construction on its proposed standard gauge electric railway, about 12 miles long, connecting Swallow Falls, Oakland, Mountain Lake Park and Deer Park, Md. J. B. Hogg of Connellsville, Pa., is chief engineer.

Paragould, Ark.—Mayor A. B. Hays writes the Manufacturers' Record that the movement to build an interurban electric railway to Paragould and St. Francis, Ark., is as yet only a rumor.

Paris, Ark.—Mrs. E. R. Gaither of Wickes, Ark., and others are reported to be promoting a plan to build a railroad from Paris to Hot Springs, Ark., about 75 miles.

Port Arthur, Texas.—Report from Houston, Texas, quotes C. S. Cleaver, vice-president and general manager, as saying that C. L. Dwyer, contractor, of Houston, will start construction immediately for the Port Arthur & Houston Short Line Railroad Co. at LaPorte; line to be 86 miles long. Financing reported arranged through Edward Skahan, president of the State Bank of Princeton, Minn., and contract closed with D. H. Donovan of St. Louis as general contractor; work to be let in 10-mile sections. Winfrey & Schlaflly of Houston are the line engineers, and Hans Falkenburg of Port Arthur is chief engineer. The Cullen-Friedstadt Company of Chicago will have charge of contract work on the bridges. A. O. Blackwell of LaPorte, Texas, is secretary of the railroad company. H. F. Best of Port Arthur and A. N. McKay of LaPorte are also interested; capital \$300,000.

Urbanna, Va.—The Business Men's Association of Urbanna is reported to be interested in a plan to secure a railway between Urbanna and West Point, Va., and also a line from Urbanna to Richmond, 59 miles.

Valdosta, Ga.—The Georgia & Florida Railway Co. is reported to have completed grading between Valdosta and Nashville, Ga., 30 miles, and tracklaying has begun.

Wichita Falls, Texas.—The Wichita Falls & Northwestern Railway Co. is reported to be building with its own forces an extension of the Wichita Falls & Southern Railway from Olney, Texas, to Belknap, Texas, 14 miles. This may be extended 50 miles to Cisne, Texas, on the Texas & Pacific Railway.

STREET RAILWAYS

Chattanooga, Tenn.—The Chattanooga Railway Co. is reported to have begun construction on the Rossville avenue extension.

Huntsville, Ala.—Reported that grading

has begun to extend the Huntsville Electric Railway to the fair ground at South Huntsville, the work to be completed in 90 days.

MACHINERY, PROPOSALS AND SUPPLIES WANTED

Manufacturers and others in need of machinery of any kind are requested to consult our advertising columns, and if they cannot find just what they wish, if they will send us particulars as to the kind of machinery needed we will make their wants known free of cost, and in this way secure the attention of machinery manufacturers throughout the country. The Manufacturers' Record has received during the week the following particulars as to machinery that is wanted.

Asbestos.—W. A. Overcash, Statesville, N. C., wants quotations on crude asbestos; in grades, run of mine.

Automatic Stokers.—A. Kramer, care Magnolia Cotton Mills, Magnolia, Miss., wants catalogues and prices on automatic stokers.

Blower System.—Box No. 197, Lawrenceville, Va., wants to employ experienced man for blower-system work.

Boilers.—See "Dredging Machinery."

Boilers.—Treasury Department, office supervising architect, Washington, D. C. Sealed proposals will be received June 27 for two high-pressure steam water-tube boilers and accessories for U. S. Postoffice and Courthouse, Baltimore, Md., in accordance with drawing and specification, copies of which may be had at this office or office of custodian, at the discretion of supervising architect, James Knox Taylor.

Boat-building.—See "Electrical Equipment."

Boiler.—Engine, care of Manufacturers' Record, Baltimore, Md., wants return tubular, butt-strapped, triple-riveted boiler. (See "Engine and Boiler.")

Boilers.—Morris Oil & Gas Co., Clarksburg, W. Va., wants prices on boilers. (See "Oil-drilling Machinery.")

Boilers.—C. H. Sharp, Superintendent Water Department, Manchester, Va., will receive bids until July 2 for two 150-horse-power water-tube boilers for 150 pounds working pressure, with all fixtures and fittings complete. Plans can be obtained from superintendent or engineer at pumping station, Manchester.

Bricks.—Jefferson Construction Co., W. O. Norris, manager, Charles Town, W. Va., wants prices on bricks.

Bridge.—Spartanburg County Commissioners will open bids July 2 for construction of steel bridge over Lawson's fork, consisting of one 68-foot span and 34 feet of approach, and for repairing stone piers; plans on file at office of W. Frank West, Supervisor, Spartanburg, S. C.

Broom Machinery.—H. G. Forrester, Dothan, Ala., wants addresses of manufacturers of broom machinery.

Butter Machinery.—W. S. Lindsey, Rural Retreat, Va., wants names and addresses of manufacturers of machinery to work butter in blocks or prints.

Cannery.—Hemman-Bessonette Company, Temple, Texas, will want cannery equipment.

Carbonic-gas Plant.—Barber & Bro., 16th street and Frisco tracks, Birmingham, Ala., want outfit for manufacturing and compressing into steel drums carbonic-acid gas for soda fountains; also want the steel drums.

Casings.—See "Oil-drilling Machinery."

Cement Manufacturers.—Robt. L. Whitcomb, Evergreen, Ala., wants to correspond with Portland cement manufacturers relative to use of cement for residences.

Clocks.—E. S. Cotton, Broxton, Ga., wants to correspond with manufacturers of clocks, clock gear, etc.

Columns.—R. G. Vance, chairman building committee, Waynesboro, Va., wants prices on six outside columns for church building; wood, metal or composition; wants also prices on inside and outside column caps, cases and plinths.

Concrete Mixer.—F. M. Dobson & Co., New Albany, Miss., want prices on concrete mixer.

Cornice.—R. G. Vance, chairman building committee, Waynesboro, Va., wants prices on sheet-metal cornice.

Creamery.—Hemman-Bessonette Company, Temple, Texas, will want creamery equipment.

Creamery Machinery.—J. T. McCaffrey, 2447 York road, Baltimore, Md., wants to correspond with manufacturers of creamery machinery, including machinery to renovate butter.

Dredging.—Proposals for dredging at mouth of Pascagoula river, Mississippi, will be received until July 20 by H. Jersey, Major, Engineers, U. S. Engineer Office, Mobile, Ala.

Dredging Machinery.—City Engineer's office, Jacksonville, Fla. Sealed proposals will be received by Board of Public Works, City Building, Forsyth and Ocean streets, until June 29 for dredging outfit, complete, consisting of one 8-inch new centrifugal dredging pump, direct connected; one engine 10x12 inches; one 8-inch ball joint; 120 feet 8-inch discharge pipe; 10 feet 8-inch suction pipe; one section 8-inch rubber pipe; all complete with connections; also, one dredge in fair condition, 16x15 feet long; one 50-horse-power Scotch boiler, as good as new; one pair double-drum hoisting engines 5x6 inches; one duplex pump 4½x3x3 inches; one duplex pump 3x2x3 inches; one "A" frame; one boom 27 feet long with ball-bearing turntable; ½-inch wire rope, block and rigging for handling orange-peel bucket; one 8-inch suction ball joint; one orange-peel bucket, capacity three cubic feet. For further information apply to Philip Prieau, City Engineer.

Dynamite, etc.—Bids will be received at office of H. F. Hodges, general purchasing officer, Isthmian Canal Commission, Washington, D. C., until July 6 for dynamite, electric fuses, connecting wire, etc.; blanks and general information relating to Circular No. 450 obtainable from above office or offices of assistant purchasing agent, 24 State street, New York; Custom-house, New Orleans; 1086 North Point street, San Francisco, Cal., and 410 Chamber of Commerce Building, Tacoma, Wash.; also from U. S. Engineer office in following cities: Los Angeles, Baltimore, Philadelphia, Pittsburgh, Boston, Buffalo, Cleveland, Cincinnati, St. Paul, Detroit, Milwaukee, Chicago, St. Louis, Chattanooga, Louisville and Mobile.

Electrical Equipment.—M. J. Copral, Orange, Texas, wants prices on electrical equipment for light boat-building.

Electric Generator.—Greensboro Boiler & Machine Co., Greensboro, N. C., wants to buy (dealer's price) 300-kilowatt generator direct connected to Corliss vertical-type engine; would also consider automatic engine.

Electric Motor.—E. W. Cole, Charlotte, N. C., wants electric motor; about seven horsepower.

Electric Wiring.—Building committee, D. M. Kimbrough, chairman, University of Mississippi, Oxford, Miss., will receive bids until July 2 for electric wiring, plumbing and heating of dormitory and dining hall. (See "Schools.")

Elevator.—George A. Clayton, 172 Meeting street, Charleston, S. C., wants estimates on electric freight elevator.

Engine.—See "Dredging Machinery."

Engine.—Milltown, Ga., J. V. Talley, Mayor, Milltown, Ga., wants gasoline engine for water-works. (See "Water-works Supplies.")

Engine.—Greensboro Boiler & Machine Co., Greensboro, N. C., wants to buy (dealer's price) 300-kilowatt generator direct connected to Corliss engine; vertical type preferred; would also consider automatic engine.

Engine.—Morris Oil & Gas Co., Clarksburg, W. Va., wants prices on engines. (See "Oil-drilling Machinery.")

Engine and Boiler.—Engine, care of Manufacturers' Record, Baltimore, Md., wants second-hand 20x48-inch (or larger size) Corliss engine, right-hand preferred; also return tubular, butt-strapped, triple-riveted boiler. Will buy separately or together.

Engines.—J. M. Burdine, Mayor, Hundred, W. Va., wants prices on engines. (See "Water-works.")

Flour-mill Machinery.—E. A. Dorris & Sons, Nashville, Tenn., will need flour-mill machinery.

Gasoline Cars.—Washington, Frederick & Gettysburg Railway Co., Frederick, Md., wants particulars on gasoline cars for rail-ways.

Gas Plant.—See "Carbonic-gas Plant."

Gasoline Engine.—See "Engine."

Gasoline Engine.—H. W. Cardwell, Orange, Texas, wants prices on six-horse-power gasoline engine. (See "Pumps.")

Handle Machinery.—Kirby & Averill Manu-

facturing Co., Wampee, S. C., wants prices on machinery to manufacture broom and agricultural-implement handles.

Handling Devices.—Elliott Woods, superintendent United States Capitol Building and Grounds, Washington, D. C. In further reference to call for bids on various items of work and materials required in completion of office building, United States Senate, Washington, D. C., intending bidders on mail-handling devices are notified that drawings and specifications for this portion are now ready for issue and may be had upon application to office. Bids will be received until July 8.

Heating.—Bids will be received until July 6 for installation of heating plant in school building at Meridian, Texas; plans and specifications at office of architect, C. H. Page, Jr., & Bro., Austin, Texas, or at office J. J. Lumpkin, Meridian. (See "Building Notes.")

Heating.—See "Electric Wiring."

Heating Apparatus.—Bids will be received until July 6 for installation of heating and plumbing at Rex Hospital, Raleigh, N. C.; each bid to be accompanied by certified check for 2 per cent. of amount of proposal; plans and specifications on file at office of Barrett & Thompson, architects, Raleigh, N. C. (See "Building Notes.")

Heating Equipment.—Bids will be received until June 27 for heating equipment for courthouse to be erected at Stanton, Texas; J. B. Anderson, County Judge, Stanton.

Heating Plant.—F. M. Dobson & Co., New Albany, Miss., want prices on steam heating plant for \$75,000 courthouse.

Heating Plant.—C. C. Hamby, President School Board, Prescott, Ark., wants prices on heating plant.

Heating Plant.—W. O. Norris, manager Jefferson Construction Co., Charles Town, W. Va., wants prices on steam-heating plant.

Heating Plant.—Bids will be opened July 8 for installation of heating plant and plumbing in school building at Jennings, La.; plans and specifications on file at office of C. H. Page, Jr., & Bro., Austin, Texas, or at office Dr. E. A. Lee, secretary of School Board, Jennings; certified check \$500. (See "Building Notes.")

Holisting Engine.—Syndor Pump & Well Co., 1330 East Main street, Richmond, Va., wants double-cylinder double-drum hoisting engine, 5½x10, or one or two sizes larger, without boiler. Name weight and guaranteed condition, with price.

Holisting Engines.—See "Dredging Machinery."

Ice and Distilling Plants.—Bids will be received at office Constructing Quartermaster, Fort Dade, Fla., until July 16 for furnishing and installing ice and distilling plants. Specifications, blank proposals, etc., furnished on application.

Ice Plant.—W. C. Newman, Atlee, Va., wants prices and full information on sixteen-ton plant.

Iron Planer.—Salem Iron Works, Winston-Salem, N. C., in market for good second-hand iron planer, with six-foot to seven-foot bed, and that will plane from 22 inches to 28 inches wide and high; send full description of condition, make, how long used and lowest price.

Lathe.—J. W. Brock, Honea Path, S. C., wants second-hand lathe, eight feet between centers, 16-inch swing.

Lathe.—See "Machine Tools."

Lightning Rod.—Walter H. Robertson, Farmville, Va., wants lightning rod for church steeple.

Lumber and Piles.—Bids will be received at office of H. F. Hodges, general purchasing officer, Isthmian Canal Commission, Washington, D. C., until July 7 for furnishing lumber and piles. Blanks and general information relating to Circular No. 449 obtainable from above office or offices of assistant purchasing agents, 24 State street, New York; custom-house, New Orleans; 1086 North Point street, San Francisco, Cal., and 410 Chamber of Commerce Building, Tacoma, Wash.; also from U. S. Engineer office in following cities: Los Angeles, Baltimore, Philadelphia, Pittsburgh, Boston, Buffalo, Cleveland, Cincinnati, St. Paul, Detroit, Milwaukee, Chicago, St. Louis, Chattanooga, Louisville and Mobile.

Pipe.—See "Water-works."

Pipe Straightener.—Cyclone Drill Co., Orrville, Ohio, wants pipe or shaft straightening machine operated by hydraulic power; hand or power; prefer second-hand outfit similar to Watson-Stillman machine.

Piping.—See "Water-works Supplies."

Planer and Matcher.—Frank K. Tyler, Fredericksburg, Va., in market for planer and matcher.

Plumbing.—See "Heating Plant."

Plumbing.—See "Heating Equipment."

Plumbing.—Board of Education, W. G. Wilson, secretary, Elkins, W. Va., will receive bids until June 27 for installation of plumb-

ing extended from Euclid avenue to Columbia avenue; plans and specifications on file at office of City Engineer; John Skain, Mayor.

Machine Tools.—See "Pipe Straightener."

Machine Tools.—E. W. Cole, Charlotte, N. C., wants 16-inch machine lathe.

Marble-mill Machinery.—Machinery, Box 510, Greensboro, N. C., wants to correspond with manufacturers of marble-mill machinery.

Metal Columns.—See "Columns."

Miscellaneous Equipment.—Bids will be received at office of H. F. Hodges, general purchasing officer, Isthmian Canal Commission, Washington, D. C., until July 13 for furnishing track scales, railroad water tanks and fittings, screw jacks, repair parts for steam shovels and dredges, dry batteries, etc. Blanks and general information relating to Circular No. 451 obtainable from above office or offices of assistant purchasing agents, 24 State street, New York; custom-house, New Orleans; 1086 North Point street, San Francisco, Cal., and 410 Chamber of Commerce Building, Tacoma, Wash.; also from U. S. Engineer Office in following cities: Los Angeles, Baltimore, Philadelphia, Pittsburgh, Boston, Buffalo, Cleveland, Cincinnati, St. Paul, Detroit, Milwaukee, Chicago, St. Louis, Chattanooga, Louisville and Mobile.

Oil-drilling Machinery.—Morris Oil & Gas Co., Clarksburg, W. Va., wants prices on boilers suitable for oil drilling, engine for same, oil-well casings, tubing, tanks, etc.

Paving.—City of Jackson, Tenn., will receive bids until July 7 for construction of about 25,000 square feet concrete walk and about 4500 linear feet combined curb and gutter, together with all necessary accessories; plans and specifications to be had on application; Atwell Thompson, City Engineer.

Paving.—Bids will be received at office of Commissioners' District of Columbia (Henry B. F. Macfarland, Henry L. West and Jay J. Morrow), Washington, D. C., until July 11 for paving various streets and avenues with sheet asphalt. Blank forms of proposal, specifications and all necessary information may be obtained at office of Engineer Commissioner, Washington.

Paving.—Bids will be received at office of Commissioners' District of Columbia (Henry B. F. Macfarland, Henry L. West and Jay J. Morrow), Washington, D. C., until July 11 for paving various streets and avenues with bitulithic paving. Blank forms of proposal, specifications and all other information may be obtained at office of Engineer Commissioner, Washington.

Paving.—Bids will be opened July 11 at office of Commissioners' District of Columbia (Henry B. F. Macfarland, Henry L. West and Jay J. Morrow), Washington, D. C., for laying asphalt block pavements. Blank forms of proposal, specifications and other information may be obtained at office of Engineer Commissioner, Room 43 District Building, Washington.

Paving.—City of San Antonio, Texas, will receive bids for paving Houston street from Nacogdoches street to Santa Rosa avenue. Specifications for brick, asphalt and bitulithic paving on file at office of City Engineer.

Paving.—Fayetteville, N. C., wants prices on both vitrified brick and bitulithic paving for 30,000 square yards of streets. Address V. C. Bullard, Mayor, or J. F. L. Armfield, chairman Street Committee.

Paving.—Board of Public Works, Stewart Brooks, president, Mobile, Ala., will open bids July 13 for paving certain streets with 34,712 square yards of rectangular treated wooden blocks, including 2966 feet of granite curbing, grading, etc.; for paving certain streets with 292 square yards of vitrified brick, including 2582 feet of granite curbing, paving granite, etc.; for constructing 11,744 linear feet of cement curbing, including grading, etc.; work specified to be let in three separate contracts; plans, specifications, etc., on file at office of chief engineer, Wright Smith, Mobile.

Pipe.—See "Water-works."

Pipe Straightener.—Cyclone Drill Co., Orrville, Ohio, wants pipe or shaft straightening machine operated by hydraulic power; hand or power; prefer second-hand outfit similar to Watson-Stillman machine.

Piping.—See "Water-works Supplies."

Planer and Matcher.—Frank K. Tyler, Fredericksburg, Va., in market for planer and matcher.

Plumbing.—See "Heating Plant."

Plumbing.—See "Heating Equipment."

Plumbing.—Board of Education, W. G. Wilson, secretary, Elkins, W. Va., will receive bids until June 27 for installation of plumb-

ing in Second Ward School building. (See "Building Notes.")

Plumbing.—See "Heating Apparatus."

Plumbing.—See "Electric Wiring."

Plumbing.—C. C. Hamby, president School Board, Prescott, Ark., wants estimates on plumbing.

Pump.—Planters' Oil Mill & Gin Co., Kosciusko, Miss., wants National standard 750-gallon fire pump; second-hand preferred if in good repair.

Pump.—H. W. Cardwell, Orange, Texas, wants prices on six-inch centrifugal sewage pump, direct connected to six-horse-power gasoline engine.

Pump Manufacturers.—Ed. H. McCuliston, Mayor, Paris, Texas, wants to correspond with pump manufacturers relative to installation of motor or suction pump in connection with improvements to water-works; lake (source of water supply) is six and one-half miles from city limits.

Pumps.—See "Water-works."

Pumps.—See "Dredging Machinery."

Quay Wall and Pier.—Sealed proposals will be received at Bureau of Yards and Docks, Navy Department, Washington, D. C., until August 1 for constructing steel and concrete quay wall and pier on timber piles, and a steel and concrete coal shed at naval station, Key West, Fla. Plans and specifications can be obtained on application to the bureau or to commandant of naval station named; R. C. Hollyday, chief of bureau.

Railway Equipment.—See "Gasoline Cars."

Saws.—Frank K. Tyler, Fredericksburg, Va., in market for second-hand resaw and band saw.

Sewer Construction.—Board of Public Works, Stewart Brooks, president, Mobile, Ala., will open bids July 13 for furnishing material and constructing 256 feet reinforced concrete culvert, size 3x2 feet; 120 feet reinforced concrete culvert, size 2½x3 feet; 10,600 feet of pipe sewers, sizes 10 to 36 inches, and 15,000 feet of 6-inch house connections, with catch basins, inlets, manholes and other appurtenances; proposals, plans and all information on file at office of chief engineer, Wright Smith, Mobile, Ala.

School Furniture.—School Board, Oscar Carr, secretary building committee, Clarksdale, Miss., will receive bids until July 10 on desks, chairs, oak table, sectional bookcases, composition or slate blackboard, tellurian globe, venetian blinds and screens; list and specifications obtainable from secretary or from H. B. Heidelberg, Clarksdale, Superintendent Schools.

School Furniture.—School Board, care of W. F. Osborne, Gurdon, Ark., wants prices on furniture for \$10,000 school building.

Screens.—Oscar Carr, secretary building committee, School Board, Clarksdale, Miss., wants prices on screens. (See "School Furniture.")

Sewer Construction.—See "Subway Construction."

Sheet Metal.—See "Cornice."

Soda-fountain Equipments.—See "Carbonic-gas Plant."

Spring and Spring Wire.—Claude B. Davis, secretary Non-Refillable Bottle Co. of America, Richmond, Va., wants address of manufacturers of springs and spring wire.

Steel Drums.—Barber & Bro., 16th street and Frisco tracks, Birmingham, Ala., want steel drums for carbonic-acid gas.

Steel Gates.—United States Engineer Office, Nashville, Tenn. Sealed proposals for constructing and erecting steel lower gates for Hales bar lock, Tennessee river, will be received until July 15; information on application; Wm. W. Harts, Major, Engineers.

Stokers.—Office of committee on buildings, United States Department of Agriculture, Washington, D. C. Sealed proposals will be received until July 1 for mechanical stokers for boiler plant, consisting of five continuous internally-fired boilers, of United States Department of Agriculture, Washington, D. C., in accordance with the drawings and specifications, copies of which may be obtained at office of committee on buildings, United States Department of Agriculture; B. T. Galloway, chairman.

Subway Construction.—Bids will be received at office of D. K. Colburn, bridge engineer Galveston, Harrisburg & San Antonio Railway, Houston, Texas, until July 1 for construction of subway at San Antonio, Texas, and storm-water sewers in connection; plans and specifications on file at office of H. F. Anderson, superintendent, San Antonio, Texas; bond, \$20,000.

Tanks.—See "Oil-drilling Machinery."

Timber Piers.—Sealed proposals will be received at Bureau of Yards and Docks, Navy Department, Washington, D. C., until July 1.

25 for constructing timber piers for torpedo-boats at navy-yard, Charleston, S. C. Plans and specifications can be obtained on application to bureau or to commandant of navy-yard named; R. C. Hollyday, chief of bureau.

Tubing.—See "Oil-drilling Machinery."

Venetian Blinds.—Oscar Carr, secretary building committee, School Board, Clarksdale, Miss., wants prices on venetian blinds. (See "School Furniture.")

Water-works.—Barbourville Water-Works Co., Barbourville, Ky., wants materials and supplies for installation of water-works; plans completed. Address F. D. Sampson, County Judge, Barbourville.

Water-works.—Gibson, Ga., invites proposals for drilling artesian well and constructing water-works. For information address J. W. Whitley or Thomas A. Walden, clerk

Superior Court, Glasscock county, both of Gibson.

Water-works Supplies.—Milltown, Ga., J. V. Talley, Mayor, Milltown, Ga., wants following water-works supplies: Gasoline engine, cotton hose, tower and tank, and six or eight-inch piping to pipe town for fire protection.

Water-works.—J. M. Burdine, Mayor, hundred, W. Va., wants prices on six-inch and smaller-sized pipe, engines and pumps, for water-works.

Wood Columns.—See "Columns."

Woodworking Machinery.—See "Saws," also "Planer and Matcher."

Woodworking Machinery.—See "Handle Machinery."

Woodworking Machinery.—See "Lumber Trimmer."

INDUSTRIAL NEWS OF INTEREST

To Examine Cobalt Properties.

Dr. William B. Phillips, mining engineer, Birmingham, Ala., has gone to the Cobalt district, in Ontario, Canada, to examine mining properties.

Business for Sale.

The owner of an established Southern grocery business requiring about \$45,000 capital offers the enterprise for sale. Address P. O. Box 163, Charlotte, N. C.

Cotton Mill for Sale.

The Eufaula Cotton Mills, Eufaula, Ala., will be sold at public auction on July 6. The building is 314x75 feet and contains 12,352 spindles and 369 looms in good operating condition.

Anderson Offutt, Electrical Engineer.

Anderson Offutt, electrical engineer, former president of the Barnes-Offutt Electric Co., has withdrawn from that company and is now established at 439 Carondelet street, New Orleans, La., conducting a general electrical engineering and supply business.

For General Contracting.

The Southern Trading Co. of New Orleans, La., recently incorporated with \$10,000 capital, is undertaking general contracts, principally those connected with the Panama canal construction. Lindsey A. Woodward is president, Nils Herlitz vice-president and D. B. Alexander secretary.

Has Resumed Manufacturing Piping.

Among the industries which have resumed operations during the week is the plant of the Seaboard Pipe Foundry Co. of Savannah, Ga. This company did not produce for several months, but it is now again manufacturing, the output being tested cast-iron sanitary pipe and fittings and gray castings.

Improved Trolley Ears.

Operators of electric railways who have trouble with trolley ears will be interested in the Dyer improved trolley ear, which, it is claimed, will save half the trouble and will decrease wire breakage due to wear, knocking, crystallization and kinking, and prolong the life of the trolley wheels by reducing sparking. Samples, prices, evidence and details will be sent by the Maryland Railway & Electric Supply Co., 604 Continental Building, Baltimore, Md.

The Consolidated Supply Co.

The Consolidated Supply Co. has been incorporated and will make a specialty of general steam and electric railway, mill and mining supplies, with headquarters at 321 Dearborn street, Chicago, Ill. Its incorporators are L. C. Hopkins, John P. Mahoney and J. L. Benedict. Mr. Hopkins has had eight years' experience in the railroad and supply business, and for the past year was connected with the sales department of the Chicago Pneumatic Tool Co.; previous to that he was for four years with Fairbanks, Morse & Co. Mr. Mahoney was formerly chief clerk to the purchasing agent of the T. S. L. & W. Railway. Mr. Benedict was in the railroad business 10 years, and for the past five or six years was connected with the Chicago Pneumatic Tool Co. as manager of the Chicago office and on the road.

Southern Furnace Appliance Co.

Last week the Manufacturers' Record mentioned the catalogue describing the Swift's fire-door fuel apparatus manufactured by the Swift Fuel Co., Security Building, Chicago, Ill. The Southern Furnace Appliance Co. has been organized at New Orleans, La., to introduce the device in Louisiana, Mississippi, Alabama, Georgia, Tennessee and Kentucky. This New Orleans company has of-

fers as follows: President, Geo. F. Jenkins of Chicago; vice-president and treasurer, O. M. Dunn, Union Station, New Orleans, and secretary, Seely Dunn, 303 Cora Building, New Orleans. The Swift device is adaptable to all classes of installations, including steam boilers, annealing furnaces, reheating furnaces, etc. It replaces the fire-door, is automatic, and effects smokeless economical combustion, utilizing low-grade fuels.

Septic Process Patent for Sewage.

It is generally acknowledged that the septic process for the disposal of sewage has been of great value to mankind. The process is now largely used throughout the world, and a recent court decision regarding it is announced by the Cameron Septic Tank Co., 352 Monadnock Building, Chicago, Ill. The company states that after five years' litigation the United States Supreme Court has sustained the septic process patent, and it (the company) owns the patent and controls its use in this country. The Cameron Company offers three propositions:

1. To design sewage disposal plants and take contracts for their complete construction.
2. To furnish plans and specifications and license the use of plants constructed thereunder.
3. To license the construction and use of plants designed by other engineers.

Concrete Pile Contracts.

H. M. North, engineer of construction for the Cleveland Short Line Railroad (branch of Lake Shore & Michigan Southern), has awarded the Raymond Concrete Pile Co., New York and Chicago, contract for concrete piles in connection with foundation for proposed bridge at intersection of Cleveland Short Line Railway and Independence Road, near Cleveland, Ohio. This contract is the result of satisfactory work done by the Raymond Company in placing the concrete piles for the Cuyahoga viaduct last season. The Raymond Concrete Pile Co. also has fifth contract for concrete piles at Immigrant Station, Ellis Island, N. Y. Contract calls for placing Raymond concrete piles under two mean wards, two isolation wards and one office building. The contractor is the Northeastern Construction Co., under supervision of Alfred Brooks Fry, superintendent U. S. Public Buildings, and Frank S. Howell, civil engineer U. S. Immigrant Service.

Possibilities in Artesian Well Drilling.

The possibilities in artesian-well drilling are indicated in some contracts recently completed in the South. There has been such a demand in recent years for artesian wells to furnish water supply that experienced men have specialized in contracting for them. The Sydnor Pump & Well Co. of Richmond, Va., has been active in this direction. It recently completed at Jacksonville, Fla., a well 1000 feet deep, 10 inches in diameter, flowing 1900 gallons per minute, which is about 3,000,000 gallons every 24 hours. Two wells of about the same dimensions have been drilled by the company for the city of Jacksonville and one well for the Seaboard Air Line at West Jacksonville. This latter well is 700 feet deep, has a diameter of eight inches, and flows 1500 gallons per minute. Hundreds of wells have been drilled by the Sydnor management throughout the Atlantic coast States for the United States Government, railway companies, operators of mills and factories, municipal governments and various others interested in a pure and unfailing water supply. The Sydnor Pump & Well Co. is prepared to supply sawmills, steam engines and boilers, gasoline engines, windmills, tanks and various other machines and supplies needed for water-works on either a small or large scale.

A Single-Track Deck Bridge.

A bridge recently completed for the Atlanta, Birmingham & Atlantic Railroad is an excellent example of a single-track deck structure of moderate span. It has a 200-foot channel span, flanked by two 90-foot plate-girder spans; standard construction; main span has pin-connected Pratt trusses 3½ feet deep and 16 feet apart on centers, and carries track on two lines of plate-girder stringers, 7½ feet apart and 25 feet long, with their bottom flanges seated on top flanges of floor beams, which are riveted to vertical posts just clear of bottom flanges of top chords; end floor beams are made very deep and support on their top flanges the 90-foot approach girders, 7½ feet deep in the lines of the main stringers. The stringers and approach girders are braced with zigzag angles and buck frames, and top chords of main spans are X-braced with single lateral angles. The bottom lateral system consists of transverse struts and X-braces, made with single and double pairs of angles connected by vertical lattice bars with bent-plate connections to lower chords. The end sway braces are made with pairs of angles latticed and intermediate sway-bracing with single angles. The two end panels of bottom chords are riveted members, and vertical posts carrying approach spans form parts of very rigid transverse bents with riveted connections to inclined end-post and bottom-lateral struts. The trusses have riveted pedestals with four bearings for end lower chord pins, and are seated on I-beam grillages distributing their loads over pier masonry. The end track stringers are rigidly connected to approach girders, and shore ends of latter have pin-connected shoes with roller bearings on abutment seats. This bridge was manufactured by the American Bridge Co. of 30 Church street, New York.

TRADE LITERATURE.

How to Print Multicolor Plates.

Messrs. Gatchel & Manning, Illustrators, designers and engravers, 6th and Chestnut streets, Philadelphia, Pa., have issued a progressive-proof circular, which practically illustrates for the printer the manner in which multi-color engravings are printed. The literature will indicate to printers how readily color printing can be undertaken.

Mine and Quarry Information.

In *Mine and Quarry* for June will be found interesting information for people concerned in the development of mines or quarries. This issue includes articles on the improvements in the St. Mary's river, air power in a granite quarry, diamond-drill costs, etc. The Sullivan Machinery Co., Railway Exchange, Chicago, Ill., issues the publication. It is also distributing Bulletin No. 60B, describing the Sullivan hammer drills, for use in quarries and by contractors.

Helps-Dont's—For All Who Grind.

A booklet is being distributed for the information of all who grind. It is entitled "Helps-Dont's," and the contents are concerned with the selection and use of grinding wheels and grinding in general. Not only are the simple questions of grinding answered in the booklet, but considerable attention is given to those questions that often mystify the mechanic. The Norton Company, manufacturer of Norton grinding wheels made of alundum, Worcester, Mass., will distribute the booklet, and invite inquiries.

Modern Concrete Machinery.

Contractors interested in modern concrete machinery are invited to send for copies of the Chicago Concrete Machinery Co.'s catalogue. This publication presents details of the company's concrete mixers, concrete elevators, friction hoists, wheelbarrows, concrete carts, rock crushers, dump boxes, grading machines, etc., which have met with the approval of engineers. The Chicago concrete mixer and the Symon's portable stone crusher are the machines especially described. Company's offices at 20 South Canal street, Chicago, Ill.

Jiffy Fire Hose Rack.

The safety of life and property requires fire protection, and few neglect to install improved devices for fire protection in their warehouses, stores, factories, mills and other buildings. In the "Jiffy" Fire Hose Rack Co.'s illustrated booklet are presented some interesting facts on the "Jiffy" fire-hose rack, which is constructed so as to permit a free circulation of air around the hose, keeping it dry and in reliable condition. The rack can be operated in a jiffy, and releases the hose in such form as to be ready for the instant reception of water. The company's offices are at 727 Seventh avenue, New York.

Europe, From a Burroughs Stand-point.

Europe, from a Burroughs standpoint, is one of the interesting subjects in the June number of *The Burroughs*—the little magazine issued by the Burroughs Adding Machine Co. of Detroit, Mich. The article is by Alvan Macauley, the company's general manager, who went across the ocean in the interest of the Burroughs adding machines, which are manufactured at Nottingham, England, for the demand in Europe. Mr. Macauley found that the modern adding machines are attracting increasing attention in Great Britain and on the Continent.

Paroid Proofs.

"Paroid Proofs" is the title of a pamphlet which illustrates a few of the many thousand buildings that are protected by a Paroid ready roofing. Power plants, factories, exposition buildings, bleacheries and dyeworks, mills, freight sheds, coal pockets, foundries and various other classes of structures are among those illustrated. Paroid roofing is offered as proof against both heat and cold, not affected by sparks or hot coals, non-shrinking in hottest weather, non-warping in coldest weather, and entirely waterproof. It is manufactured by F. W. Bird & Son of East Walpole, Mass.

Report on Alabama Coal Mines.

The report of the Inspector of the Alabama coal mines has been published by the Birmingham Engineering Co., Birmingham, Ala. It shows the location of mines, character of production; output; number of employees and other interesting data for the year 1907. The publication includes data regarding machinery and mechanical devices which have been adopted to improve the quality of the output of the mines and at the same time minimize the cost of mining, including improved mining machinery, pumps, electrical apparatus, water-works systems and other necessities. The Birmingham Engineering Co. is a general engineer (mining, mechanical, electrical, civil) for industrial plants, and has been especially active in the Birmingham district.

Byers Steam Hoisting Engines.

Portable and semi-portable steam hoisting engines, geared locomotives, derrick cars, derrick irons, hand powers, blocks and sheaves for contractors and quarrymen and other similar equipments are described in the John F. Byers Machine Co.'s catalogue No. 11. The descriptions are accompanied by illustrations. The Byers offerings include apparatus that has been proven in actual practice throughout the country and has come to be in steady demand among discerning and exacting buyers of such equipments. Men who are engaged in any kind of contracting or the development of quarry properties will find the catalogue of interest. The John F. Byers Machine Co. is of Ravenna, Ohio, where it has a large modern plant for designing and manufacturing.

Standard Specifications for Vitrified Brick Paving.

Vast amounts of money are being spent annually for paving streets with modern materials, and while most cities endeavor to see that this work is done according to the best practices, there are, unfortunately, others who devote too little attention to it, and consequently after a short time are experiencing such trouble that they unjustly place the blame on the materials used. To obviate this trouble and in line with its purposes, the National Paving' Brick Manufacturers' Association has caused to have prepared a set of standard specifications covering the laying of vitrified-brick pavements according to the experience and practice of leading engineers. These specifications, which are endorsed and recommended by the association, have been adopted by a number of cities throughout the country, and copies will be sent to officials interested in them. Address Will P. Blair, secretary, Board of Trade Building, Indianapolis, Ind.

Official Tests of Concrete Reinforcement.

On March 4 the American Steel & Wire Co., Hudson Terminal, New York, had its triangular mesh concrete reinforcement publicly tested for the benefit of the building departments of the five boroughs of New York, Boston, Providence, Philadelphia and Washington, D. C. That one test might be sufficient for all, it was conducted at the Columbia University testing ground, and in addition to representatives of the building departments above mentioned, railroad engineers, Government engineers and others were present. The test was successful in every way, and since being held there have been numerous inquiries for full information con-

cerning it. In order to supply this demand fully the company has had Prof. Ira H. Woolson, E. M., Columbia University, who conducted the tests, make a printed report of it, so that it might retain its official character. This report has been published in pamphlet form, containing a full description and several interesting photographs; letters are included from the various building departments approving the material for their respective cities.

Cost of Bad Roads.

In an address at Chatom, Ala., recently Mr. John Craft of Mobile, who is a pioneer in the campaign for good roads in this country, urged an amendment to the State constitution so as to provide for the creation of a highway commission and State aid to good roads building. He presented figures to prove that during the past 40 years the people of the State have actually lost \$147,000,000 because of bad roads, and said:

"Have you farmers any idea what you are taxed a year on account of bad roads? Let me exemplify to you to move one product, the average crop of 1,000,000 bales of cotton a year, so you can get your cotton to the railroad stations, to the steamboat landings and to the markets of the world. The average haul of eight miles is 50 cents a bale on account of the bad roads that we have in our State. If we had good roads the cost would be reduced and would be about 16 cents a bale. That is an absolute loss of 34 cents on each bale of cotton. Take annually, and it is \$340,000; take this average for 40 years, and it would be another absolute loss amounting to \$13,600,000; add that to your \$80,000,000.

"I wish to illustrate another example to the farmers and their wives. The average amount of cottonseed that the farmer has to sell is about 500,000 tons; the average haul is about 10 miles before he can get to the railroad stations, the steamboat landings and the cottonseed mills is 25 cents a ton a mile. If he had good roads it would be 10 cents a ton a mile. This shows the absolute loss of 500,000 tons at \$1.50 on each ton, making \$750,000, an absolute loss annually.

"Take that for 40 years since I have known the State. That would be a further loss of \$30,000,000; add that to the other two items and you will see what this great tax is on the farmers.

"We have heard so much about the fertilizer and the poor farmer agitated in the recent political campaign—that the railroads were charging the poor farmers too much to haul their fertilizer. My friends, I believe there is about 400,000 tons of fertilizer used a year by the farmers of Alabama, and it costs them 25 cents a ton a mile to haul their fertilizer from the railroad stations, the steamboat landings or the merchant's store. The average haul of 10 miles if the roads were made good and built permanently would be about 10 cents a ton a mile. That is an absolute loss of \$1.50 on every ton of fertilizer the farmer has to haul over the bad roads of our State. This is an absolute loss of \$600,000 annually to the farmers of Alabama; or take this for 40 years, and that would be \$24,000,000 more.

"Now, my friends, let us take the four items for 40 years. The first item on account of the unbusinesslike methods in maintaining our road system of Alabama is \$2,000,000 a year, or \$80,000,000 for 40 years. The next item on account of bad roads is the hauling of cotton, an average million bales a year for 40 years is \$13,600,000. The next item, the hauling of 500,000 tons of cottonseed, a loss of \$750,000 a year, or 40 years is \$30,000,000. The other item, the fertilizer, 400,000 tons, is \$600,000 a year loss annually, and for 40 years is \$24,000,000.

"My friends, in these four items alone

the farmers and the people of Alabama lost this enormous amount of \$147,000,000. This is only a small average of the losses and the enormous tax on account of the bad roads. My friends, in the recent campaign the Governor claimed that the railroads needed regulating; that the rates of freight were excessive, and we heard so much about the fertilizer and the poor farmer, and I did not know if the railroad rates were excessive or not, but I want to say to you that it costs more than thirty times as much a ton to haul a ton of fertilizer over our bad roads than it does by the railroads. And there is thirty times more reason why you should want better country roads.

"And I think it is time that we should reduce this tax, and we should attack our bad roads and make them good. I am not unmindful that the railroads of Alabama, due to their splendid system of development, have done much for the development of our State.

"Next to agriculture, the railroad industry is the most important. The first good roads we had was the railroads, because they reduced the tariff on cotton, fertilizer and other products in the last 25 years to my knowledge. Would like to illustrate: Before you had railroads the farmer of Alabama, years ago, in order that he might get his bales of cotton to the markets of the world, had to ship them by steamboat to Mobile, and then by sailing vessel at a cost of \$12.50 a bale to Liverpool, then the best market of the world.

"The railroads built the first good roads. You can ship a bale of cotton and put it into the markets at Liverpool for less than \$5, and the transportation does not require one-half the time. This is an illustration to show you what the first good roads have done for Alabama. Good roads will improve our agricultural position, will build up our waste lands, and nothing will advertise your country and attract a higher class of intelligent, industrious farmers with means and their new ideas quicker than good roads."

Hon. G. W. Koiner, commissioner of agriculture and immigration of Virginia, is sending a large collection of corn, hay, fruits and general farm products of Virginia for display in Scotland by agents of his department for the purpose of inducing Scotch farmers to settle in the Old Dominion.

FINANCIAL NEWS

The MANUFACTURERS' RECORD invites information about Southern financial matters, items of news about new institutions, dividends declared, securities to be issued, openings for new banks, and general discussions of financial subjects bearing upon Southern matters.

Review of the Baltimore Market.

Office MANUFACTURERS' RECORD,
Baltimore, Md., June 24.

Dullness was the chief characteristic of the Baltimore stock market for the past week. The trading showed sales as follows: United Railways incomes, 51 1/4 to 51; do, funding 5s, 75 3/4 to 76, reacting to 75 3/4; do, funding scrip, 76 1/2 to 75 1/2, with last sale at 76; United 4s, 85 1/4 to 85; Consolidated Gas 5s, 110 to 110 1/4; do, 4 1/2s, 90; Seaboard Company common, 6 1/2 to 6 1/2; Seaboard 4s, 52 1/4 to 55 1/4, with last sale at 54; do, 10-year 5s, 87 1/2 to 89 1/2; do, three-year 5s, 90; Mt. Vernon-Woodberry Cotton Duck 5s, 74 3/4 to 73 1/2; G.-B.-S. Brewing Co. common, 4; do, incomes, 15; do, 1sts, 43 3/4 to 44; United Light & Power 4 1/2s, 89.

Maryland Casualty stock sold at 67; Mechanics' Bank, 26.

Other securities were traded in as follows: Anacostia & Potomac 5s, 99 1/4 to 100; Carolina Central 4s, 81 1/4; Charleston Consolidated Electric 5s, 88 1/2 to 88;

Detroit United 4 1/2s, 68 1/2 to 69; Baltimore City 5s, 1916, W. L., 107 1/2 to 108 1/4; do, 4s, 1954, 103 1/2; do, do, 1926, W. L., 103 1/2; Western Maryland Railroad stock, 5 1/2; Charleston & Western Carolina 5s, 100%; Baltimore City 3 1/2s, 1928, 93; Consolidation Coal, 87; Baltimore Traction (North Baltimore division) 5s, 113 1/2; Baltimore City 3 1/2s, 1930, 93; Baltimore Electric 5s, stamped, 87 1/2; Maryland Telephone 5s, 94; Baltimore Sparrows Point & Chesapeake 4 1/2s, 92 1/2; Lexington Railway 5s, 95; Baltimore City 3 1/2s, 1980, 95%; Central Railway 5s, Baltimore, 109 1/4; Georgia, Carolina & Northern 6s, 100; Washington-Vandermerie 4 1/2s, 94 to 93 3/4; Virginia Midland 5s, 104 1/2; Northern Central Railway stock, 91 1/2; Alabama Consolidated Coal & Iron common, 28; Chattanooga Sewer 6s, 1900, 101 1/4; City & Suburban (Washington) 5s, 102; Baltimore City 5s, 1916, F. L., 108; Augusta Railway & Electric 5s, 97; Colorado Southern 4s, 89 1/2.

SECURITIES AT BALTIMORE.

Last Quotations for the Week Ended June 24, 1908.

| Railroad Stocks. | Par. | Bid. | Asked. |
|-----------------------------------|------|--------|--------|
| Atlantic Coast..... | 100 | 85 1/2 | 87 |
| Atlantic Coast of Conn..... | 100 | 285 | 300 |
| Georgia South. & Fla. 2d Pfd..... | 100 | 65 | — |
| Seaboard Co. Com..... | 100 | 6 | 7 |
| Seaboard Co. 1st Pfd..... | 100 | 25 | — |
| Seaboard So. 2d Pfd..... | 100 | 11 1/2 | 12 |
| United Railways & Elec. Co..... | 50 | 10 | 10 1/2 |
| Western Maryland..... | 50 | — | 6 |

| Bank Stocks. | Par. | Bid. | Asked. |
|--------------------------------|------|--------|---------|
| Citizens' National Bank..... | 10 | 33 | — |
| Drovers & Mech. Bank..... | 100 | — | 250 |
| First National Bank..... | 100 | 125 | 127 1/2 |
| Merchants' National Bank..... | 100 | 163 | — |
| National Union Bank of Md..... | 100 | 115 | — |
| Western National Bank..... | 20 | 33 1/2 | 36 1/2 |

| Trust, Fidelity and Casualty Stocks. | Par. | Bid. | Asked. |
|--------------------------------------|------|------|---------|
| Fidelity & Deposit..... | 50 | — | 122 1/2 |
| International Trust..... | 100 | 115 | — |
| Maryland Casualty..... | 25 | 67 | 68 |
| Merc. Trust & Deposit..... | 50 | 114 | 116 |
| Safe Deposit & Trust..... | 100 | — | 450 |
| Union Trust..... | 50 | — | 60 |

| Miscellaneous Stocks. | Par. | Bid. | Asked. |
|-----------------------------------|------|------|--------|
| Ala. Con. Coal & Iron..... | 100 | 26 | 30 |
| Ala. Con. Coal & Iron Pfd..... | 100 | 67 | 80 |
| Con. Cotton Duck Pfd..... | 50 | — | 22 1/2 |
| Con. Gas. Elec. Lt. & P. Com..... | 100 | 20 | — |
| Consolidation Coal..... | 100 | 86 | 88 |
| G.-B.-S. Brewing Co..... | 100 | — | 41 1/2 |
| George's Creek Coal..... | 100 | 69 | 71 |

| Railroad Bonds. | Par. | Bid. | Asked. |
|---|------|---------|---------|
| Albany & Northern 5s, 1945..... | — | 93 1/2 | 95 |
| Atlanta & Charlotte Ext. 4 1/2s..... | — | 99 | — |
| Atlantic Coast Line 1st 4s, 1952..... | — | 90 1/2 | 92 |
| Atlantic Coast Line 4s, Ctrfs., 1952..... | — | 70 | — |
| Atlantic C. L. Com 4s, Ctrfs., 5-20s..... | — | 80 | — |
| Atlantic C. L. (Conn.) 4s, Ctrfs..... | — | 70 | — |
| Baltimore & Annapolis S. L. 5s..... | — | 99 | — |
| Brunswick & Western 4s..... | — | 93 1/2 | 95 |
| Carolina Central 4s, 1949..... | — | 82 | 84 |
| Charleston & West. Car. 5s, 1946..... | — | 100 1/2 | — |
| Charlotte, Col. & Aug. 1st 5s, 1910..... | — | 102 1/2 | — |
| Charlotte, Col. & Aug. 7s, 1910..... | — | 103 1/2 | 107 |
| Coast & Iron Railway 5s, 1930..... | — | 101 | — |
| Florida Southern 4s, 1940..... | — | 86 1/4 | 87 |
| Georgia, Cr. & North. 1st 5s, 1929..... | — | 99 1/2 | — |
| Georgia Pacific 1st 6s, 1922..... | — | 109 1/2 | — |
| Georgia South. & Fla. 1st 5s, 1945..... | — | 102 1/2 | — |
| Petersburg, Class A 5s, 1926..... | — | 107 | — |
| Petersburg, Class B 6s, 1926..... | — | 100 | 104 |
| Potomac Valley 1st 5s, 1941..... | — | 100 | — |
| Raleigh & Augusta 1st 6s, 1926..... | — | 110 | — |
| Richmond & Danville Gold 6s, 1915..... | — | 108 | 111 |
| Savannah, Fla. & West. 5s, 1934..... | — | 108 1/2 | 109 1/2 |
| Savannah, Fla. & West. 6s..... | — | 123 1/2 | — |
| Seaboard Air Line 4s, 1950..... | — | 53 1/2 | 54 |
| Seaboard Air Line 5s, 10-year, 1911..... | — | 88 1/2 | 90 |
| Seaboard Air Line 5s, 3-year..... | — | 89 1/2 | 90 1/2 |
| Seaboard & Roanoke 5s, 1926..... | — | 102 | 103 1/2 |
| South Bound 5s, 1941..... | — | 98 1/2 | 99 1/2 |
| Virginia Midland 2d 6s, 1911..... | — | 102 | — |
| Virginia Midland 3d 6s, 1916..... | — | 103 | — |
| Virginia Midland 5s, 1926..... | — | 104 1/2 | — |
| Washington Terminal 3 1/2s..... | — | 89 | 89 1/2 |
| Western Maryland 4s, 1952..... | — | 68 | 72 |
| West Virginia Cent. 1st 6s, 1911..... | — | 104 | 105 |
| Wilmington & Weldon Gold 5s, 1935..... | — | 110 | — |

| Street Railway Bonds. | Par. | Bid. | Asked. |
|---|------|---------|---------|
| Anacostia & Potomac 5s, 1949..... | — | 99 | 100 |
| Atlanta Con. St. Ry. 5s..... | — | 103 1/4 | — |
| Augusta Ry. & Elec. 5s, 1940..... | — | 97 | 97 1/2 |
| Balto., Sp. Pt. & Ches. 4 1/2s..... | — | 93 | — |
| Balto. Trac. (N. B. Div.) 5s, 1942..... | — | 113 | 113 1/2 |
| Central Ry. Ext. 5s (Balto.), 1932..... | — | 110 7/8 | 112 |
| Charleston Con. Elec. 5s, 1969..... | — | 87 1/2 | 88 |
| City & Suburban 5s (Balto.), 1922..... | — | 108 1/2 | — |
| Knoxville Traction 1st 5s, 1928..... | — | 104 | — |
| Memphis Street Railway 5s..... | — | 90 | — |
| Lake Roland Elevated 5s, 1942..... | — | 109 | — |
| Lexington Traction 1st 5s, 1949..... | — | 94 1/2 | — |
| Macon Ry. & Lt. 1st Con. 5s, 1953..... | — | 93 | 98 |
| Metropolitan 5s (Wash.), 1925..... | — | 109 1/2 | — |
| Richmond Traction 5s..... | — | 103 | —</td |

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